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IN THE SUPERIOR COURT,

State of California, County of Sacramento.

OCTOBER SESSION, 1881.

HON. JACKSON TEMPLE, - - - - - PRESIDING JUDGE.

WINFIELD J. DAVIS, OFFICIAL REPORTER.

SAMUEL OSBOURNE AND WILLIAM M. CUTTER, REPORTERS.

The People of the State of California,
us.
The Gold Run Ditch and Mining Co. }

COUNSEL:

For Plaintiff,

HON. A. L. HART, Attorney General, GEORGE CADWALADER, ISAAC S.
BELCHER, A. L. RHODES, RICHARD BAYNE.

For Defendant,

J. K. BYRNE, W. C. BELCHER, S. M. WILSON, W. T. WALLACE, A. B.
DIBBLE, A. P. CATLIN.

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Arifried J Davis
Official Reporter

In the Superior Court of the
State of California in and for
the County of Sacramento

The People of the State of California	}	Thursday Decr 15 th 1881
vs.		
The Gold Run Ditch and Mining Company	}	Morning } Session }

Motion for Recess.

Mr Caldwell As to the
cross examination of this
Witness, we ask the
privilege of passing it
for the present, allowing
them to call another Witness

Mr Byrne It seems that we
have no other Witness
present. We thought that
the cross examination of
Mr Smith would occupy
a considerable time and
so we did not have another
Witness in Court.

Mr Becher Why not go on with the cross examination
Mr Rhodes The attorney general is not here at the present moment and before proceeding Mr Loadwater and myself desire some further consultation with the attorney general on some matters. So we desire this examination to pass over for the present.

The Court You might proceed with the cross examination reserving such topics as you wish to consult upon for future examination.

Mr Rhodes We could not very well. The questions which we would ask are of such a character that they would go clear to the bottom of the matter; to the bottom of the matter that we desire to cross examine about. They would do that nearly as much as any others that

we could ask

The Court I do not like to lose the time. That is all I care about it

Mr Rhodes We do not want to lose any time either

The Court That is the only care I have about it

Mr Rhodes We think that so far as that is concerned it would result in a saving of time. That is of course, upon the idea that the other side can go on with other witnesses.

The Court I have no objection if the other side are willing; if the defense are ready to go on with some one else

Mr Dibble We are not ready Your Honor, to go on with another witness.

The Court I would be very willing to accommodate you Judge Rhodes but you see him the Court is fixed

in the matter

Mr Wallace If your Honor please, we cannot break into the line of testimony for the defense, but if the Counsel want an hour's recess in which to consult, we are perfectly willing to take it - we are perfectly willing they should have it.

The Court I have no other objection to that except that I don't want to lose the time <Here the Attorney General made his appearance>

Mr Start Will the Court give us half an hour's recess. The Counsel on the other side are kind enough to be willing to give us an hour's recess. But we don't want that much time.

The Court Of course I will give it to you if necessary. It is understood that I am very anxious to make use of every moment of time.

Mr Start We think that

it will abbreviate the examination of this witness a little more than half an hour

The Court Very well I will take your offer in good faith. The Court will take a recess until a quarter past ten o'clock
<after recess>

Cross Examination of Hamilton Smith

<Continued>

Mr Badwalader Q I believe that you stated that you did not come to California until 1869? A I did so state.

Q How do you know that the first mining in California was confined to these river beds or done in these river beds? A I know that as I know a great many other things which every sensible person

is supposed to know

Q How do you know that the miners after working the river beds, proceeded to look for the sources of the gold deposits?

A In the same manner

Q How do you know that the amount of gold extracted in California since 1849 was this precise amount of 1100 million, 546 thous and 699 dollars and 39 cents?

A I did not assume to say that that was the exact amount. Of course any such figures are at best only an approximation. But I have looked into that subject and studied that subject very carefully and the figures which I give are the result of that careful examination

Q How do you know that of this total sum taken out since 1848, 900

millions were taken from what are called the gravel mines? A I said that 900 millions of that amount, or about 900 millions came, either directly or indirectly, from the gravel beds.

Mr. Badwalades You are simply repeating your former statement.

The Witness Allow me to explain -

Mr. Badwalades I want to know how you know that 900 millions of that amount was taken from these gravel beds?

Mr. Stair Answers the question. We want the basis of your knowledge on that point without any explanation.

The Witness I am going to give it to you.

Mr. Badwalades I am waiting for an answer to that question? How do you know that that amount was taken from the gravel

mines of California? That of this total amount given by you in dollars and cents there was 900 000 000 taken from the gravel beds of this State? And I did not say that there was precisely 900 000 000 taken from the gravel channels. I said it was about that. In dealing with such large numbers of course you must deal in approximations. I give that as about the percentage coming from the gravel mines either directly or indirectly; and I know that by the personal experience I have had and the personal observations I have made of the gold mines in California.

Q Tell me what your personal observations were from which you were enabled to estimate this amount of 900 000 000 of dollars?

A that observation has consisted largely in seeing a large portion of the gravel beds, of these ancient river beds, which have been swept away by the act of nature. Knowing that the gold would remain, that a very considerable part of the gold that was washed away by Nature from these gravel beds which have been disturbed would have to remain in the rivers. Knowing, that is, the great source of the placer gold taken out in California in early times.

Q You do not answer my question? The question is: How do you know that of the total amount of gold taken out since 1848 — which amount you gave in dollars and cents — that of that amount 900 000 000 were taken out of the gravel mines?

Did you ever see any such sum as that taken out of the gravel mines? A Of course I have not

Q Did you ever see any sums of gold taken out from these mines except from the mines under your control? A I have seen but very little gold taken out from the mines under my control

Q Have you seen any gold taken out of any of these mines except of such as are under your control? A I have seen ^{very frequently} gold taken out from many mines. But I have not seen much taken out even from mines under my control.

Q That is not an answer to my question? A I think so.

Q Now what mines and to what amount have you seen gold extracted?

A I have seen, as I told you!

gold taken out from these mines, but as to what amount I have seen taken out, I could not make any statement.

Q What amount, or about what amount have you seen taken out in the aggregate? A The amount in the aggregate must have been but small.

Q It was trifling in amount. A Trifling, of course, compared with the 900,000,000. Now I wish to explain to you how I estimated that 900,000,000.

Witness the object. He has testified to a matter that must have been a matter of his own personal knowledge to enable him to testify and now we are cross examining him in regard to it.

The Court I think the question was as to how he knew there was this proportion of 900

millions. Now I understand him to be going on to state Mr Badwalader The question is how he knew

Mr Hart He testifies now that he didn't know except as a matter of hearsay. The Witness You misunderstood me.

Mr Hart I say that is now his evidence

Mr Belcher I submit that the Witness should be allowed to fully answer and explain without these interruptions.

The Court The question called for an explanation, and the Witness should be allowed to complete his answer.

Mr Badwalader The Witness is asked how he knows that of this total amount which he gives in dollars and cents 900 000 000 came from these gravel beds

The Court He proposed to tell

you the sources of his information, and you stopped him

The Witness Shall I go on?

The Court Yes sir.

The Witness I know about what the yield of gold has been from the quartz ledges of California. I know about what proportion of placer gold — approximately I know that — what proportion of placer gold was obtained by ^{the} washing away of the metalliferous quartz ledges; and what proportion came from the ancient river beds with those data, I am able to make approximate figures which result in my statement of 900 000 000 as the proportion coming directly or indirectly from these gravel beds; as the total yield of gold in California from these ancient beds.

Mr. Adams To what

extent is this calculation based upon your personal observation? All very largely on my personal observation

Q What amount of gold have you seen taken from the quartz mills of California?

A I have seen 100 or 200 quartz mills I suppose; but I have seen but very little gold taken from them with my own eyes. Even in the mines that are or have been under my immediate control, I have seen but a small fraction of gold taken out.

Q The amount of the yield of gold through the quartz mills has been conveyed to you by somebody else? or by some report? That is to say it came to you by what is called the hearsay channel, rather than by personal observation?

A It has come to me both from my personal observation

and from extensive reading
or knowledge of the amount
of gold mining done in
California

Q What would be the
amount in dollars and
cents, determined by your
own personal observation,
of the gold extracted from
the quartz mines of California?

A I have stated that as
to the amount, I know from
my personal observation
of the yield, it is very
small as a matter of course

Q When did you say that
hydraulic mining commenced?

A I said in my direct
examination, I think, that
hydraulic mining commenced
when the miners that were
at work along the rivers
and in the river beds,
changed their workings
from the rivers to the
higher mines along the
river side. Immediately
above the rivers. And I

said that the first mining that miners did was by drailie in its nature. So that by drailie mining commenced, in my estimation, in my opinion when the first mining that was done in California.

Q That is, the miner who worked with his cradle was engaged in hydraulic mining? A He certainly was.

Q And the miner who washed out the gold from his pan was engaged in hydraulic mining? Who shook out his pan and washed the gold in that way was engaged in hydraulic mining?

A He certainly was.

Q And the man who used the long Tom and conducted his pioneer mining in that way was engaged in hydraulic mining?

A He certainly was. Using water in motion to separate

the gold from the lustrous matter in which it was embedded constitutes hydraulic mining.

Q Is that the received definition of hydraulic mining? A In California as I have explained in my direct testimony, what is technically known as hydraulic mining, - so known by the miners, - is water applied by pressure against a bank. But as I also stated in my direct examination, I have known many mines where the water was not used under pressure but was allowed to run over the banks. Those mines were still called hydraulic mines.

Q At what period of time do you fix the commencement of hydraulic mines as it is now called or understood?

I mean that kind of mining which is conducted by the

use of water under pressure.

A I understand it to have commenced in 1852

Q Is it so stated in the authorities? Yes Sir

Q Is it not stated in the authorities as commencing in 1865? A There is no reason why any authority should state it as commencing in 1865

Q Is it not so stated by Bowie on Stranahan Mining?

A I was going on to state Mr Caldwell Answer my question

Mr Belcher he thinks the witness has a right to complete his answer.

The Court If the witness has not completed his answer he can do so

Mr Caldwell I understood that he had completed it

The Court (<To Witness> You can complete your answer if you have not completed

is confining your answer
strictly to the question

A I know that the author
dates vary in regard to
this matter; some putting
it at 1852 and some at 1854
as the date of the commence-
ment of what is sometimes
technically called hydraulic
mining, or what is known to
miners as such. But I
have come to the conclusion
from my reading that it
really was commenced in
1852. I think that then

water was first applied
to banks under pressure

Q ^{By Mr. C. J. Walcott} Is it not fixed by
Bowie at 1865?

A He may possibly have
done so but I think not
because he is an intelligent
man and knew otherwise

Q Do you pretend to say
that you have read Bowie's
work? A I have read
portions of it. I don't know
that I have read it entirely

through. I am generally familiar with it.

Atwell, it is very largely filled with quotations from your experience as a Civil Engineer.

A I think so.

Q I will ask you whether at page 13 he don't fix the year 1865 as the year of commencement of hydraulic mining as now understood?

Mr Becher. Show him the book.

The Witness. I cannot tell you.

Mr Becher. I suppose if they are to examine him on this matter he is entitled to see the book.

The Court. I suppose this examination is as to the extent of this ~~examination~~ information. I suppose they can ask him if he knows the fact; or exactly what he knows. By looking at the book, they could not test his knowledge of the facts.

Mr. C. A. Walbridge You were not here at that time?

A In 1865? No.

Q As to whether hydraulic mining commenced at that period or at an earlier period, you have to rely on the information of other persons? A I have. But I can say that —

Mr. C. A. Walbridge Contg > Now mind that.

A I wish to add a little more. I don't rely entirely on information which I obtained from other people. Because when I was an engineer and engaged in engineering work, long before I came to California. I had then read descriptions of the hydraulic process of mining then carried on in California.

Q Don't you know that there is a well understood and long established distinction between hydraulic mining and

quartz mining meaning is impossible that the same terms would embrace both?

A I don't understand that
Q Well, I will ask you whether quartz mining is hydraulic mining in the received or accepted sense of the word? A Quartz mining is the extraction of quartz auriferous quartz from the veins.

The Court You mean in the popular sense of the word, Mr. Caldwell?

Mr. Caldwell Don't you know there is a well understood and long established distinction between hydraulic mining and quartz mining?

A Quartz mining consists of

Q (sub?) Answer the question

The Witness Read your question again

<Question repeated>

A Popularly there would be. As I consider it as a scientific man, or as

scientific men would consider it, a branch of quartz mining or quartz reduction is hydraulic work. Because quartz mining consists simply in extracting auriferous quartz from metalliferous veins. That quartz is reduced afterwards. Sometimes it is reduced by the action of fire as is the case in England and in Germany. But in California it is reduced by crushing and then by separating the gold from the particles by the action of running water - from the small particles of earth. The process of reducing quartz ores - not quartz mining itself as practised in California, is hydraulic.

Q Does hydraulic mining embrace drift mining?

A In my judgment it does. Because the gravel from

the drift mines is washed away in precisely the same manner, and the gold separated from the drift gravel, from the gravel which has been drifted precisely as is the case in the hydraulic mines.

Q Then it follows from your theory that wherever water in motion is used to separate the precious metals from the matter that holds it or the material that holds it, that is hydraulic mining? Whether done with a pan or a rocker or a long bar or a quartz mill?

Ayes Sir

B Including the use of quicksilver? Or by including the use of quicksilver?

A I don't see what analogy quicksilver has to it — has to the hydraulic method.

Obwell that would be a liquid in motion.

A. As far as quicksilver is concerned you try to keep it from being in motion as much as possible. Just the reverse.

Q. What analogy is there between the tearing down of a bank & means of water discharged from a little plant and battering great with stone frs?

A. I think there is an analogy. Quartz is brought out from the mine - a gravel is washed from the bank. The water is applied directly in one case and in the other it is applied to the material after it passes the battering.

Q. You think that is one and the same operation, to you?

A. They are not one and the same at the beginning; of course not; but certainly there is an analogy between them, between the two.

Q. And belong to the same class of mining. They are analogous in this; in each case there is the removal of material

nal from the earth and a transporting of it to some other place; and in the end water carries the sand over quicksands to catch the gold.

Q. And you are willing to state that quartz mining is hydraulic mining?

A. I have not stated that, at all. Quartz mining has nothing to do with the hydraulic process —

Q. (interrupting) Are you willing to state that the bearing necessary to practice quartz mining is sufficient to practice hydraulic mining?

A. The two things, as I stated before, are different. The extraction of quartz from the veins and the cutting away of the banks, of the gravel banks, & water, are different things.

Q. To what extent does the use of quartz mining pollute the waters of the many rivers in the mining regions in this state? Does mine effluvia pollute the waters of the state?

a. It is hard to tell how much the material coming from a quartz mill pollutes the waters. Of course, the sand from this crushing of material is washed down into the stream, and pollutes and muddies the water more or less.

Mr. Hart. Do you say that there are no quartz mines on the American River than in no substantial degree pollute the waters of that stream?

A I need not tell you particularly about that, But whatever quartz mines there are they do pollute the stream more or less.

Q Do you know of any quartz mines on the American River? Answer that question?

A I was reflecting for a moment. I know that there are quartz mines in the river. But I have never examined a single one of them. I hold on for a moment. Let me see. [Reflecting]. I think

I have. But as I state I have no particular knowledge about them.

Q You have seen quartz mines on what is called the Iowa Hill divide?

A You mean along on the divide?

Q I have you ever been at quartz mines on the other divide between the Middle and the South Forks? A No sir, I never have.

Q That is the Gey Cloin divide?

A Yes sir.

Q I have you ever been at any quartz mine on the slope from the top of the mountain, on the American stream slope, on the divide between the American fork waters and the Cozumnes?

A I think that on that general slope I have been at quartz mines but I have never examined any professionally.

Q Tell us what one?

A I think there is one

at Placeville. I think I
have passed by it. But I
don't think I have looked at
any quartz mine on the Amer-
ican River on the other side.
I What one did you examine?
A As I told you, I have
never examined one. Unless
it was this one in this lo-
cality.

I How many years ago was
that? A I can not re-
member. It is not long since
I was there.

I How many years?
A Six or four or five years.
I have forgotten how many,
perhaps six.

I Have you been there since.
A. Not to that one at Pla-
ceville.

I Where was that located?
Do you recollect where that
quartz mine was located?
A I think it was above
Placeville, I am not sure
in regard to that. That
may be a mistake.

It is some years ago. As I said.

I have seen in Alacruville from the South Fork of the American River? As I can tell you best by looking at the map.

I know that myself?

As I need not tell you exactly without looking at the plan.

I have you seen any of the detritus of a quartz mine, coming from a quartz mine, along there, or in the middle of South Fork of the American River?

As I don't think I have

I have you any reason to believe that there is no quartz mines on the North Fork?

As at the present moment I need not tell you

I You are not prepared to state to what extent the detritus from the quartz mine has been the cause of the pollution of the American River

A. I am to a certain extent
 I am prepared to state
 the extent? A Not the ex-
 act extent. I could say some-
 thing about it

Q Can you give us anything
 more than I could guess?

A I cannot give an ap-
 proximation. I know that
 some mines which are nothing
 but quartz mines have been
 washed to a very considerable
 extent, have been worked over
 to a considerable extent on
 the Sengston divide. I know
 generally that a very consid-
 erable amount of material
 has come from them; but I
 do not know that from my
 personal observation.

Q You say there are none on
 that divide? A I say
 there are. I say this generally.
 I don't know from my personal
 observation?

Q How do you know it?

A Simply by hearing or
 reading. I don't know it

from personal observation.

Do you know that there has been a single mine in operation there within the past three years? A I don't know it as I have never been there.

Do you know that there has been a single mine in operation on the Middle Fork slope? On the ridge between the American Fork water and the Coconino?

A I am not certain about that.

Do you know that there is a single quartz mine in Packer County the detritus from which reaches the American River? A I am not certain about that.

Do you know whether there is any quartz mining along the line of that river? A I believe that

there are quartz mines along there but I have never paid any attention to that.

2 Believe, You know, is infinite? You have no knowledge at all upon that subject?

A I have none; no tin, No personal knowledge

2 You never travelled over that Country? A By the car.

But I am not very familiar with the drainage of the American river not near as familiar as I am with the drainage of the other parts of the State

2 How much water and solid material comes from the largest quarry mine you know of, daily?

A It is my impression about 300 tons

2 And that is solid material? You mean the solid material or the water? A It is very fine quartz sand

2 You say that 300 tons a day comes from the mine?

A Yes sir

2 What mine is that?

A I think the Sierra Butte

may be stated as about that.
 I think I saw about that
 amount there.

Q You know that?

A Well, I did not weigh
 the material. But I think
 I saw about that. That would
 be an approximation.

Q Where is the Sierra Butte
 mine? A It is situated
 above Doornville on the
 North Yuba River.

Q Have you ever been to it?
 A I have.

Q How often? A I think
 I have been there twice.

Q How long ago?

A I think I was there
 the first time eight or nine
 years ago. The last time
 I was there was six years
 ago perhaps.

Q Have you been there for
 six years? A I cannot
 not tell you exactly.

Q When you were there six
 years ago, how long did
 you remain there?

A I really forget now. I probably remained over night there at the time.

I arrived there in the evening and came away in the morning?

A No sir, I think that on that occasion I spent 2 night at the mine, but I have forgotten. I could not tell you.

2. What were the measurements that you made?

A I made no measurements, I think.

I you did not? A No sir, I know the number of stamps which were running, I know about what a stamp will crush.

2 What becomes of the material that is carried away from a quartz mill?

A It is carried into the streams and over a stack which drain the state down into the river?

A Into the river that drains

the mountains. And I suppose
it finds its way by degrees
down into the larger rivers;
as I described the other day,
— how the sand gradually
works its way down?

Q Into the Sacramento?

A Some of it might remain
in the upper river. Some of
it might come into the Sacra-
mento just as I have described.
That sand does not come
down at once by any means.

Q But it does come down.

A Gradually, it does where
it is not caught by the larger
boulders.

Q Well, finally or shortly the
whole of it will come down.

A Not by any means.

Q It will not? A No sir.

Q That quartz rock is crushed
or stamped to a great degree
of fineness is it not?

A It is. But if the bed of
the river in which it is de-
posited or received, there
is an accretion of material

and it some of them there is
a great deal of the sand -
it may move slowly; and
perhaps in particular places
fill around large boulders
which hold it back.

Q. I believe that you stated
in the Ben River case that
quartz sand was not dis-
tinguishable from any other
sand. A I forget what
I stated?

A You stated that by trit-
uration or by attrition, it
lost its somewhat angular char-
acter so that it was impos-
sible to distinguish it?

A I don't remember saying
that it was impossible to
distinguish it.

Q. Did you say that or did
you not? A I am not sure.

Q Well, is it reasonable that
you should have stated that?
Mr. Belleh We object. Now
they made an objection
when we asked Mr. Allard
in regard to what he said

in the Kyer case. I don't know whether the ruling should apply to them or not Mr. Hart, I don't remember making any such objection and I don't think it was made. Mr. Cadwalader Now in

Mr. Hart, If any such objection was made it could not have been sustained

Mr. Wallace We did want to ask Mr. Allard as to why he had stated in the Little York case about matter or material that had gone into the river. That was objected to, and ruled out. Now we want make any objection to their going into the same kind of an examination. We will withdraw our objection here

Mr. Hart. Thanks for your liberality!

Mr. Wallace We are willing and we want to have this matter sifted to its bottom

Mr. Cadwalader - I understand

Mr. Cadwalader Will you pre-
tend to say that drift mining
pollutes the water of these rivers
to any substantial or appreciable
Extent? A I think it does,
I know it does, in fact

I Well, to what extent?

A. Well, it is very hard to
define. The tailings running
from the dump of a drift
mine are very highly colored
indeed sometimes almost black
and you can see that color
almost down into the Yuba
River, out from the larger
drift mines in Sierra County.

Q A drift mine is a mine
that breaks the bed rock is
it not? A The break

sometimes Q. What is called
the pay streak?

A. Sometimes they take out
a portion of the bed rock
because the bed rock occa-
sionally carries considerable
gold with it

Q And they generally raise it
up do they not through a

Shaft? a They generally do it by driving an adit or tunnel

2 They frequently do it by shaft, do they not?

A Sometimes, but that is not a profitable way as a general thing of working the mine

2 I believe you states that it could not be carried on where the dirt did not pay something over a dollar to the cubic yard?

A It generally pays rather larger than that I think to be profitable.

I you stated in your direct examination that you found that it could not be carried on under the most favorable circumstances without the dirt paid a good deal over a dollar? A I did not say that at all, sir.

2 Didn't you state the result of your experiments in drift mining in the North Bloomfield? A I did.

I said nothing about the favorable circumstances or unfavorable circumstances.

Q Well, did not you give as your illustration of the cost of drift mining at North Bloomfield —

A. I did, and that in that particular instance and with gravel which yielded \$1.50 a ton, that there was no profit in it which was the case.

Q You still say that now do you not?

A I say that in regard to that particular instance, yes.

Q. Take an ordinary drift mine and how do you compare its detritus in extent with that of the ordinary quartz mine?

A It will depend on the depth and extent of the working of each.

Q You could not tell could you? A I could not answer your question, it is impossible to answer that

Q. State how the material is brought out of a drift mine.

A. The material is brought through with cars.

Q. Brought out in cars.

A. Yes sir.

Q. And is it then put where?

A. It is put into their dump or especially if they have water it is put directly into their washing place and washed. If they have no water to wash it, it is put into their summer dump piles and accumulates there.

Q. It is brought out in cars?

A. Yes sir.

Q. And it is taken out by hand is it not, pick and shovel?

A. It is taken out, excavated by pick and shovel.

Q. The cars are loaded and unloaded? A. The cars are loaded and dumped when they come out of the mouth of the tunnel.

Q. Which carries the most

detritus or debris or refuse the
^{mainly} gold mines or the drift mines?

A It depends which is brought out
 the most - The question is un-
 possible to answer, I think any
 one can see that

Q Well, take the amount of
 refuse from an ordinary drift
 mine and compare it in extent
 with the refuse of a quartz
 mine according to the number of
 stamps used? A It is un-
 possible to answer such a question
 you give no data at all, it is
 just like -

Q Have you ever been engaged
 in drift mining? A I have -
 you asked me to compare the
 size of two things without giv-
 ing me the dimensions and that
 is certainly impossible to do

Q What becomes of the mate-
 rial taken out of a drift mine

A I explained it before, I can
 go over it again, if you like.

Q The question is where does
 it come from?

A I suppose it finds its way

down into the beds of the stream - it is generally washed direct into the creek, which is adjoining the mouth of the tunnel.

Q What becomes of the boulders? are they not shovelled out of the sluices or forced out as it is called? A. Boulders as a general thing in a drift mine are left in the mine itself.

Q But when they are not, when they are washed, are they not forced out, and thrown on the bank? A. It depends. As a general thing in drift mining the large boulders are not brought out at all.

Q. Don't they use sluice forks? A. To some little extent, but not very much in the drift mines in which I am interested and those which I have examined.

Q What have you to say on this subject: Does not the Indiana Steel Claim send away more solid matter than all

the quartz mines you know of
in the State combined?

A I should have to make an
Calculation in regard to that.
Q Well, make a rough cal-
culation? A Well, I would
have to look. From my own
personal knowledge I would
not be able to answer. Upon
Examination I might, referring
to books and reports, be able
to answer you approximately.

Q You can give me a rough
answer to that, can't you?

A No, I would not be willing
to do it.

Q. How does the Indiana Hill
Claim send out 5 times as much
as all the quartz mines in
the State combined?

Mr Belcher D & Co has already
told us he could not answer
the question.

A. It certainly does not.
Mr Cadwalader Well, say
three as much? A It cer-
tainly does not.

Q. Well it twice as much?

A. I do not think it does. I decline to make any estimate — if you wish to ascertain the fact and will give me time to examine the authorities, I can give you a pretty close answer or something which will be a pretty close approximation.

2. Is it not stated in the authorities, the total amount of detritus coming from the quartz mines? A. I have never seen such statements. I do not remember to have seen such a statement, possibly I may have. I do not remember to have seen it.

2. You have never attempted to make an estimate?

A. I have never attempted to make an estimate of that sort but if you desire the information, I will be very glad to give it to you, if you will give me time. It is my impression, that the sand, the material coming from quartz mines would be very much

greater than that coming from
the Indiana Mill mine.

Q That is your impression?

A That is my impression,
and I amply give it as an
impression. I can give it to
you exactly if you wish.

Q. I will ask to have that
stricken out if it is only an
impression.

The Court. If you do not want
it it will be stricken out, but
I thought you were asking for
his opinion.

Mr. Cadwalader He said he had
no basis at all. He said
he would have to consult the
books and authorities.

The Court. If you do not
want it, it is of no consequence.

Mr. Cadwalader You stated that
the Geo Run mine was the
largest hydraulic mine on
the American river?

A I do not state that.

Q. Well, is it not?

A I do not know. As I
have told you I am less

Familiar almost with the American River than with the other mining rivers of the State. I know that there are other extensive mines —

I Well, is it not the largest within the range of your observation? A I could hardly tell you about that, I have looked on the south slope —

I Well, I mean your observation. A Well, I was going to tell you.

I Not in regard to your information, but I am speaking in regard to your own observation? A I could hardly answer that. The old surface washings at Gold Run are larger than any that I have seen elsewhere on the American River but the bottom washings are not as large as I have seen I think in other places.

I Well, there is more dirt to wash, that is more pay

but to wash than any other mine that you know of on the American River.

A Well, I would not say that I mean, of your own knowledge. A I would not say that.

I Well, have you seen any large or mines, if so, what one?

A. There are very extensive deposits of gravel -

I. But I am asking you what you have seen?

A I am speaking of what I have seen. I have seen extensive deposits -

I I am not asking you about deposits. A I have seen extensive mines and that necessarily follows that there are extensive deposits of gravel -

I That is not an answer to the question.

Mr Hart. The object is to ascertain which of these mines is most extensively worked.

We do not ask him any -

They' about the Extensive deposits of gravel and do not care anything about what his opinions are on the subject because we do not think they are worth it

The Court. I understood the question as I think the witness did; it asked for which had the most gravel to work and water, the most gravel to work and the most water. I thought the witness was answering the question

Mr. Cadwalader My question is directed to the Equipped mine.

A. What is it, the size of the mine or the largest extent of gravel, that you want

2. {The question is repeated} There is a mine Equipped ready to work on the American River.

A I have seen the mines about Placerville and on Webber Creek but it has been several years ago, and I am not likely to compare their size exactly with the amount of bottom

Gravel I should say which had been washed in the mines near Placerville, in Coon Hollow I think they call it, is larger than that which has come from the bottom washings —

Q That is not what I asked you, whether this is not the largest equipped mine that has come under your observation on these rivers?

A Well, I think not. I think though as I told you, the mines at Placerville I should say as far as their bottom washings are concerned, are larger than the Gold Run mines.

Q You say that you have not been at that mine in Placerville for the last 5 years?

A It has been several years since I have been there. I was speaking of the time, that I was there.

Q How many years?

A I cannot give you the years exactly.

Q But I am referring to a

Mine now presently equipped as you know of in its present condition? A You must make your questions a little clearer if you want me to answer them intelligently

Q. You have seen the Goer Run mine, haven't you? A I have I you have states its extent?

A Yes sir

Q You have states the cubic yards of gravel yet to wash?

A Yes sir

Q. And you know the water it has to wash it with. Now have you seen a mine of that character - have you seen a larger mine of that character?

A Well then, in answer to that question -

I Presently, immediately, with a the past four years

A I think I have been at Placerville within the past four years and there was an extensive deposit of gravel to wash there -

Q Well, say within the last

three years then ².

A. I have not seen the mine at Placerville within three years, I think - no I have not.

I then within the last three years, is this the largest equipped mine that you have seen on the American River?

A. It is.

I. Why didn't you say that before?

A. If you had asked me that in the first place I would have told you at once.

I. How do you know how much money has been invested in this Gold Run mine?

A. I know that from looking over their books and seeing a statement taken from their books in detail.

I. In any other way?

A. I have seen the mine and their tunnel and I know generally about the cost of such things. I know the cost of tunnels or about what they cost and I am therefore able to

form an opinion in regard to that, and also in regard to the cost of ditches, because I have built a great many tunnels and a great many ditches.

Q Is there anything there but the tunnel? A. There is a tunnel and ditches and then mine

Q Well, they are all old are they not? A And then machinery.

Q There are all old are they not? How long has it been since that tunnel was run?

A Well, the age of the tunnel, is not considered an essential element in its value

Q That is not what I asked. How long has that tunnel been run? A I think that they started it in 1872, if I remember, I think it was in 1872.

Q How long have you been at that mine at any one time?

A I think a day is the

longest that I have been at the mine, a day and a half.

Q When was that?

A That was this year, the longest I have ever been at the mine.

Q What time did you arrive there, and when did you leave?

A I arrived there one night and left there a day and a half afterwards.

Q During that time you got all this information concerning this mine? A Not at that time, I have been acquiring information in regard to that mine more or less for several years.

Q You say you have never been there before? A I have been there before, I stated so.

Q You stated a few minutes ago that you had only been there for a day and a half.

A I stated at that particular time - that was the longest particular time I have ever been there.

Q That was after the suit

had been brought?

A That particular time was after this suit had been brought

I know as you know that so much money has been invested in what is called the Excelsior mine at Junturaville?

A I am very familiar with their property, and know the figures which I gave the other day were based upon reports made by their secretary, their officers, I know generally about the nature and extent of their properties

Mr. Hunt. That does not tend to demonstrate the investment and it is not answering the question. The witness comes here to swear to a fact that so much has been invested.

The Court. You can ask him how he knows

Mr. Hunt. He says that so much has been invested in that mine.

Things may be of greater value than what has been paid for them

The Court. You see you have to discriminate between what is proper to state now, and what he actually did state. He was asked what he estimated upon. It may be improper data but that is an answer to the question. There is point in your remark if the question did not call for this.

A. Allow me to finish. I know generally about the extent and nature of their properties and therefore I am enabled to form an approximate opinion as to their cost.

Mr. Cadwalader That is the only way? A That is the only proper way to form any estimate of such a thing.

Q. You never made any expenditures yourself did you?

A. I have never been a stockholder in the Excelsior mine, No.

Q. Were you ever at Brantsville more than a hour or two at a time?

A I have been a great many times there over an hour or two.

Q Travelling where?

A I have been at Smartsville so many times that I could not tell you how many.

Q En route where

A. I have gone there some times directly for the purpose of going to Smartsville and at other times passed through there frequently besides.

Q You never resided there did you?

A I never lived in Smartsville

Q Where have you resided for the last four or five years?

A That is hard to tell I have been travelling all over the state. My residence practically and nominally has been in San Francisco for the last five years.

Q How long did you live in the mines actually?

A. Well in which mines

Q Were in the mines?

A In the California mines as you mean.

Q Yes sir you say you came to this state in 1869 how long did you live - actually reside in the mining region?

A. I lived for a good portion of the time from 1869 to 1870 in Nevada County.

Q Whereabouts?

A At Bloomfield and different parts of the County, and afterwards from 1871 to 1874 I lived there making my head quarters at North Bloomfield I think for three years and a half about

Q Since then you have lived in San Francisco?

A I have lived in San Francisco, San Francisco

has nominally been my residence but I have spent a small portion of the time comparatively in San Francisco.

Q San Francisco has been your home - there you have had your office haven't you?

A. I have had an office in San Francisco

Q How do you know that the Capital invested in Hydraulic mines is nearly all domestic Capital or California Capital?

A By observation.

Q How was that Capital invested. did you see it invested to any great extent?

A. I have seen about three millions of dollars of it, that amount was spent directly under my supervision and I have known of -

Q You have known of

What?

A. I have known of other large investments.

Q How much more?

A. It would be hard to tell in all the properties I have examined.

Q What?

A That would cover all the properties ^{and} hydraulic mines that I have examined, that would be a good many millions.

Q How is money invested in these stock corporations in what manner - is it called for by assessments?

A They are frequently called on for assessments that is the general method of raising money to open and operate a mine in California.

Q That is the principal way is it not?

A It is the general method. Sometimes it is done in a different way.

Q It is done frequently by

Mortgaging the property is it not?

A Sometimes money is raised by mortgaging the property I have known that to be done.

Q Well are not all these hydraulic mining Corporations or a very large majority of them stock Companies?

A Well I think the majority of them are joint stock Companies.

Q Well say seven tenths of them?

A No sir the majority of the larger ones are joint stock Companies

Q Well I mean the large Companies?

A Yes sir, those small Companies are rarely stock Companies, the small mines

Q The North Bloomfield the Eureka Miocene Gold Run Cedar Creek little York Birds Eye they are all large hydraulic Corp-

Q orations are they not?
 A No excuse me I think
 the Cedar Creek is not
 owned by a Corporation.

Q All stock Corporations —
 do you pretend to be able
 to state whether the stock
 or any substantial part of
 it has been, that is whether
 the greater part of all the
 stock has been bought by
 Citizens of California, or
 do you know?

A Which stock.

Q You stated I believe that
 nine tenths of all this stock
 or of all this property
 was paid for by domestic
 Capital?

A I do not think I gave
 that fraction. I stated the
 mines that were owned
 by foreign Capital, or for-
 eign Corporations.

Q Didn't you make it
 even a larger fraction than
 I have and I made it nine
 tenths?

A It is not possible because I do not think that the foreign Corporations represent one tenth part of the mining property of California.

Q I am talking of foreign Capital - do you pretend to know the persons that have been buying and selling this Corporate hydraulic stock
A In a great many cases I do.

Q Well to what extent?
A Well it is hard to define to what extent - I know the Companies with which I am especially familiar, I know somewhat generally about the ownership of the stock, my knowledge is of a general nature of course.

Q The balance is a surmise is it not?
A I suppose it would be but my statement was in describing this Capital these several mines which

were owned by foreign Corporations that is my statement.

Q Well did you enumerate the number of english limited Companies?

A I think I did generally those of any considerable importance I believe I enumerated.

Q Did you take in Cedar Creek?

A Cedar Creek is not owned by an english Corporation.

Q Well it is an english Corporation is it not?

A I think it is not.

Q The Cedar Creek limited

A I think not.

Q When did it cease to be?

A I do not know, I do not think that property is owned by the Cedar Creek, there may be such a corporation but I do not think it owns that property there now.

Q How is the Birds Eye?

A The Birds Eye was one of the foreign Corporations that I mentioned.

Q How was ^{the} Little York?

A. The Little York is not owned by a British Corporation.

Q But it is an English limited, it has got the word limited?

A I think it has not, the property is not there. May be such a foreign Corporation but a foreign Corporation does not own it.

Q How is Blue Tent?

A. That is one of the foreign Corporations that I mentioned.

Q These are all large hydraulic mining Corporations are they not?

A Not very large.

Q Well how large - how much water has the Cedar Creek Company?

A The Cedar Creek property as I told you before is not owned by a foreign Corporation.

Q I did not ask you that
just pay a little attention
to me how much water has
the Cedar Creek got?

A It has a considerable amount of water.

Q Well considerable; now
tell us about how much—
you know all about those
things?

A I could not give it to
you now exactly.

Q Well it is over 3000
inches is it not

A I do not know I could
not give it to you exactly

Q Well have you heard it—
don't your knowledge on
these subjects extend that
far?

A I perhaps by refreshing
my mind could tell you in
regard to it because I have
looked into that sometime
ago. I know that I could
not give it to you exactly
now.

Q Is that the characteristic

of all your statements or
 is it confined to this one?
Mr Belcher The question is
 an impertinent question and
 should not be allowed to any
 witness — a question that is
 put simply for impertinence
 ought not to be allowed

Mr Codwallader If Mr Belcher
 thinks that it is any great
 impertinence I will withdraw
 it, I never heard a case tried
 where that question was not
 asked, of course it embod-
 ies a deduction more than
 anything else. Well now there
 is an English limited Corp-
 oration tailing into this
 Canyon Creek is there not
 A I believe there is yes
 Sir, it is the one that
 I mentioned the Gold Run
 limited.

Q You say that some of
 the English limited Corporations
 have gone out of existence
 do you

A I do not know whether

the Corporations have gone out of existence or not.

I know that several of them do not own the property which they formerly owned.

Q And that they were formerly English limited Corporations?

A They were and there may be such Corporations yet.

Q How do you know that there were 127000 persons in certain Counties depending upon hydraulic mining?

A I do not think I stated that by any means.

Q Well what did you state?

A Well I enumerated a number of Counties the United population of which was 127000.

Q How did you get at the United population?

A I have looked at the

Official Census Reports for
the year 1880.

Q That is the way?

A Yes sir the only proper
way to know it.

Q That is the only proper
way to know it?

A. Yes of course.

Q Are you ready to swear
that that is a correct
Authority?

A. I am ready to swear
that that is the best
Authority which can be
obtained by any body in
obtainning the population of
the United States or any
part of it, it is the Census
Return.

Q What part of the population
of Placer County for instance
is engaged in hydraulic
mining, that is mining
by the use of water under
pressure?

A I could not give you
that, I stated in my
direct examination that

in Placer County there was
 a considerable of an amount
 of Agriculture which was
 not dependant upon mining.
 I stated that very distinctly
 Q What is the population
 of Gold Run?

A I could not give you
 that sir.

Q Is it over one hundred?

A I should judge that it
 is more than one hundred,
 I could not give it.

Q One hundred and fifty?

A I could not give it to
 you I have never looked
 into that.

Q What is the population
 of Dutch Flat

A. I could not give it
 it is quite a town, I
 could not give it to you

Q What is the population
 on what is called the
 Iowa Hill divide?

A. I could not give it to
 you sir.

Q Are there any other

portions of Placer County
where hydraulic mining
is carried on, that is by
the use of water under pres-
sure except on the Iowa
Hill divide Gold Run
and Dutch Flat?

A I cannot tell from my
own knowledge now excep-
ting in Sacramento County
I saw -

Q No I am not talking
about Sacramento but
talking about Placer County
A. Oh Placer County I

could not tell you about
that - I know generally
from my personal knowledge
I could not tell you at
the present moment.

Q Have you any knowledge
on that subject that will
enable you to answer that
question

A I know generally that
there are a great many mines
there.

Q Well have you ever had

enough Knowledge on that subject to answer that question?

A. I know from -

Q Just say yes or no?

A. I think I have I might say.

Q Well when did you acquire it as to the Iowa Hill divide?

A. I have not any particular Knowledge as to the separate localities, I have of the whole.

Q I believe you say you have never been there?

A No.

Q Is there any quartz mining done in Placer County on the Iowa Hill divide?

A. I cannot tell you that Sir.

Q Is there any quartz mining done at Gold Run?

A I think not at Gold Run

Q Is there any quartz mining done at Dutch Flats?

A. I think not

Q How far beyond Dutch Flat do you go in order to get beyond the mineral belt?

A. Well you would go to Denver perhaps.

Q You say that the mineral belt extends clear across the Sierra Nevada mountains?

A. It is generally mineral yes sir. The great Comstock Lode is just on the other side of the Sierra Nevada mountains?

Q Where does the mineral belt end on that divide going east?

A. The hydraulic gravel is found right upon the summit of the Sierra Nevada nearly on the western slope.

Q Has there been any quartz mining or hydraulic mining to your knowledge east of Dutch Flat, of your own knowledge?

A There has been

Q When?

A: The last time I was at those places.

Q How far east?

A. If you want to know exactly it is quite a

great many miles east

Q What mines - I mean quartz mining?

A. Oh I thought you said gravel mining.

Q Well I say now quartz mining and then I will afterwards ask you about gravel mining?

A You asked me about gravel mining which do you want answered first

Q First answer as to quartz mining?

A There are quartz mines east of Dutch Flat.

Q Where?

A There is a quartz mine upon Bear River I know I do not know how much work has been done there, it is some distance above

Q Were you ever there?

A I have been by there,
not in the mine but I
have been by the mine.

Q How long ago?

A. It has been several
years ago.

Q How many years?

A Six or seven perhaps.

Q You saw one did you?

A yes sir

Q What mine was it?

A I have forgotten what
the name of the mine was
I simply know there has
been quartz mining there.

Q Do you know which year
it was?

A There has been quartz
mining very much further
east than that too.

Q Excepting that one par-
ticular mine have you ever
been to any quartz mine
east of Dutch Flax?

A I have seen quartz
mining to some considerable
extent very considerably

east of Dutch Flat.

O Where?

A Oh all along you see
quartz ledges, all along in
the mountains there you see
on Fall Creek for instance
Or above Bowmans there
there is quite a quartz
ledge and at meadow Lake
you see any quantity of
quartz ledges. if you want
to limit it as I tell you
to the mineral belt you
will have to go to Denver
that is by the mineral
belt I suppose you mean
the gold and silver
mineral belt.

O How many persons
are engaged in quartz
mining in Placer County?

A. I could not give you
the figures in regard to
that - you mean persons
directly engaged.

O Yes sir?

A. I could not give it to
you sir,

Q How many persons are engaged in hydraulic mining in Placer County.

A. Directly engaged in it
Q Yes sir?

A. I would not like to state at present

Q Suppose all the persons now engaged in hydraulic mining in Placer County were suddenly stopped how many persons would be thrown out of employment?

A. I have told you that I could not answer the other question

Q You cannot answer that?

A. No I am not sufficiently familiar, I have not studied that up carefully enough.

Q What is the superficial area of the gravel deposits at Dutch Flat and Gold Run?

A. I can calculate it,

Q That is the surface acreage?

A. So you want it exactly

Or simply a rough estimate
Q No sir a short approximation?

A. Oh I suppose there is a thousand acres covered there perhaps, perhaps more.

Q You do not know the population residing in those localities?

A. I do not now.

Q I will ask you whether there is any hydraulic mining in Placer County west of Gold Run if so where?

A. I would have to look at the map to see.

Q You would not know of your own knowledge would you?

A. Now I would have to look at the map.

Q Never mind the map what is the population of Placer County west of Gold Run?

A I could not give that

to you now sir

Q What part of Placer County lies in the Sacramento valley?

A. Comparitively a small portion of the County.

Q What distance along the Sacramento valley on the North and south line is Placer County?

A. If you will allow me to look at the map I can tell you.

Q You cannot without reference to the map?

A No sir that is the best information.

Q Don't you know there are more persons engaged in getting our granite at Rocklin and Penryn than are engaged in hydraulic mining in the balance of the County?

A. I should think not by any means I do not know though. Q Don't you know there are

more persons engaged in the Rail Road shops and quarries around Rocklin than are engaged in hydraulic mining in the whole County?

A I do not know that.

Q. What is the principal town in that county?

A. I suppose Auburn is the principle ~~the~~ town in the county.

Q. Is there any hydraulic mining there? A. In that immediate neighborhood I think not now, it has been -

Q. Well, within 25 miles of there? A. It has been originally mined though,

Q. They were placer mines there, were they not?

A. Placer mines, and bank mines too. I have seen hydraulic mining in that ravine.

Q. You know the number of acres cultivated in wheat in Placer County?

A. I do not now. I think I looked into that once, I have forgotten though.

Q. Do you know the number of acres used in Placer County for grazing purposes?

A. More or less - all the county which is not cultivated is used for grazing, which is not enclosed

Q. Do you know what the population is around Newcastle, engaged in fruit and strawberries, and berry raising? A. I do not

Q. Don't you know that it is larger than the population of Gold Run?

A. I do not

Q. How far is it from Roseville to Sheridan?

A. I think you can find that information better by the map. I cannot give it to you exact. I have been over that a hundred times or more, but I do not know the exact distance

Q. What would you suppose to be the population of Placer County engaged in raising the staple crops of the country, and in cultivating fruit

trees and berries?

A. Repeat your question, You mean all the agriculturalists?

2. All agriculturalists; all fruit and berry raisers?

A. It is pretty hard to define that, because you might take nearly the entire population of the country. All the miners, as a rule, or a great proportion of them, have their own orchards and gardens, and they are agriculturalists during that part of the year when there is no water to work the mines, so to a certain extent, the entire population

2. How do you know that, by your own information? A. I know it from observation, I think everybody knows that, who has ever been in those mining countries.

2. Have you been

through the agricultural
region of Placer County?

A. I have been over a
good deal of Placer County,
not over all of it

Q. Well, what parts?

A. I have been over
all that part on the ridge
between the Yuba River
and the American River,
I have been over that
ridge very frequently
over the lower part of
the county

Q. Do you say that
Placer County crosses
Bear River?

A. I did not say that

Q. How could you be
over the ridge then in
Placer County, that sepa-
rates the Yuba from Bear
River?

A. I am not
sure as to that though,
I may be mistaken.
I was thinking that Placer
County was bounded on
the north by Yuba

River

Q. But it is not, is it?

A. I cannot say about that. I would have to look at the map to see, I think it is not, since you mentioned it, the Bear River does not head in the Sierras

Q. What proportion of the people of Placer County are engaged in these pursuits, as compared with the number engaged in hydraulic mining in the same county?

A. As I tell you, the miners, a great many of them, are partly agriculturalists

Q. Just state the proportion; that is what I want to get at?

A. The largest part are agriculturalists, if you can consider in that class, the miners, besides

Q. How much the largest?

A. There would be, if you count the miners, as I told you, that nearly all of the population has more or less to do with agriculture.

Q. But I am talking the persons whose vocation is farming as distinguished from all other pursuits, farming trees, berry raising, what proportion do they bear to the persons engaged in that County in hydraulic mining? A. Would you include in that the farmers or the miners?

Q. I include all persons in Placer County who are engaged in farming?

A. No matter whether they have their farm in the mining region or in the valley?

Q. Yes sir? A. I should say that there were ^{as} a larger

proportion of agriculturalists
on that basis

Q. Well, what proportion?

A. I would not like to
give it to you exactly. I
can, if you want me to,
I could make an approx-
imation pretty close

Q. You could not do it
yesterday, and could not
do it to-day?

A. I could find the in-
formation

Q. You could not give
it yesterday?

A. I could not give it ex-
actly, no. If you want the
exact information, I can
get it for you very
easily

Q. Well, know take El-
Dorado, how many times
have you been there. I be-
lieve you say you have
not been in El Dorado
County for 4 years?

A. I think it is about
4 years since I was in

El Dorado County

Q. How long were you in the county, four years ago?

A. At that particular time, I think I was there a week, perhaps, I do not remember.

Q. Where were you during that week?

A. From Placerville to the head of Webber Creek, and on the head of the Consumnes

Q. What is the chief product of El Dorado County?

A. The chief product?

Q. In value? A. I fancy gold is

Q. Your fancy, do you?

A. I think so, yes sir.

Q. Do you know whether it is gold, or grapes, or fruit?

A. I think it is gold; that is my opinion

Q. Have you been there to study and examine into the subject?

A. I have not examined

into it, in great detail

Q. Well, have you to any extent? A. I have looked into it

Q. Say yes or no, please?

A. I have to some extent.

Q. Well, to a limited extent? A. Not in very great detail - not in detail

Q. Now, did you ever go to Placerville, and go to Webber Creek?

A. You cross Webber Creek going to Placerville

Q. At what time were you in Placerville?

A. I could not tell you. You mean what time of the year?

Q. Yes, and what year?

A. It was in the summer - I think it was 4 years ago

Q. Well, where did you go from Placerville?

A. From Placerville -

Q. Did you go out of Placerville? A. I went

up on the ridge from Placerville, and I was on the ridge between the American River and the Consumnes

Q. Where did you go to, Grizzly Flat? A. I went up to the head of one of those ditches there, I forget its name, that heads on the headwaters of the Consumnes

Q. You went to the Grizzly Flat mine? A. I have forgotten those names, I see so many mines, that it is impossible to remember the names. I examined a great many mines when I was up there

Q. Do you know whether there is a single quartz mine in successful operation in El Dorado County? A. I believe that there are

Q. What are they?

A. I could not give you the names.

2. Do you know?

A. I do not know absolutely myself, but I believe that there are

2. What is the area of El Dorado County devoted to farming; and fruit raising, and stock raising?

A. As I told you, of stock raising in all these mountain counties, the whole county that is not enclosed, is used for grazing, both for sheep and for cattle.

2. What kind of stock do they raise mostly in El Dorado? A. I suppose they have sheep and cattle

2. Do you know?

A. I have seen sheep and cattle there

2. When you were there 4 years ago? A. I did; yes sir

2. You saw them everywhere? A. Yes sir

2. Before 4 years ago, had you ever been there,

if so where? A. I think not.

Q. You think not, do you know how many miles of railroad there are in Placer County?

A. There is quite a number

Q. Do you know how many miles of railroad there are in El Dorado

A. Not a great many

Q. Now, take Butte County? what proportion of Butte County is agricultural as compared with mining?

A. In area?

Q. Yes sir? A. I should say that the mining area was rather larger than the agricultural area

Q. Have you ever been through the agricultural part of Butte County?

A. I have

Q. From where? A. I have been across, through from Oroville across by the foothills there across

that country several times
to Chico

Q. Have you been from
Oroville to Chico?

A. I never was clear
through; I have been on
that road, around it

Q. You have been on
the road to Cherokee?

A. Yes sir, and on the
road west of that.

Q. To where? A. I could
not give you the names
of the ranches, exactly

Q. But you have never
been on any ranch in
the valley, have you

A. Yes sir

Q. What ones? A. I could
not give you the names,
I have been down in that
country west of the foot-
hills, as I told you

Q. Well, whereabouts?

A. In Butte County

Q. Whereabouts? A. Well,
in a northwesterly direc-
tion from Oroville

Q. How far? A. I have been over there 20 miles - 15 or 18 miles from Oroville I should judge, over that country

Q. How near the valley did that carry you?

A. That particular place, as I say, it is right on the slope of the foothills

Q. It is on the slope?

A. From the foothills, I have been on the railroad line several times, across the bottom there, across the lower end of the county.

Q. Have you ever been along the line of the Sacramento River, from Butte Creek down - Butte Creek is 8 miles down?

A. Along the bank of the river itself?

Q. Yes sir? A. No sir, I have never been on the river

Q. Have you ever been at the south-western corner

of the county, on the river?

A. I could not tell you that, I have been upon the railroad

Q. What is the chief product of Butte County?

A. I suppose that wheat is

Q. What else? A. I do not know what would come next - gold perhaps. I do not know - I could not tell you

Q. You never examined did you? A. I have looked

Q. You never pretended to make any examination, did you? A. I have looked into that somewhat several years ago, two or three years since, into the productions of the different counties of wheat

Q. You have not looked into it for 2 or 3 years?

A. I looked into it partly this year, this summer

Q. Now, would not you be very largely mistaken

in your supposition that the whole population of Butte County or half of the population of Butte County depended on mining? A. I did not state anything of the sort

Q. You did not? A No.

Q. You do not pretend now that it would, do you?

A. I do not. I stated that perhaps one-fourth of Butte County depended upon mining as contradistinguished from three-fourths on agriculture

Q. How can you say that a person who is pursuing an agricultural pursuit, at the same time is engaged in pursuing mining - is dependent upon mining?

A. Because ^x is his main business

Q. Well, but if it is not his main business

then your conclusion is erroneous, is it not - do you know the population engaged in hydraulic mining at the head of Bear River?

A. I could not give it to you exactly, now, it is very considerable

Q. Well take in all the hydraulic mines at the head of Bear River? A. It is very considerable. I know, I would not like to give it to you exactly

Q. Well take in all the deep mines there, Quaker Hill, Sargeants, and Jacobs, and Little York and You Bet, and the Dutch Flat Mines, what is the greatest number of people that have been engaged in hydraulic mining there? A. I could not give it to you

exactly

Q. You have heard it stated, have you not?

A. I have heard it stated, yes sir, I do not remember what that was in figures

Q. Didn't you hear Mr Sargent state that it was between 300 and 400?

A. I do not think he stated that, at all, sir.

Q. Did not Mr Gaylord, of Nevada City, testify to that same effect?

Mr Belcher I object to that as immaterial. It is not anything that belongs to the testimony in this case?

A. Allow me to answer you in regard to Sargent. I recollect what he did say now, I can answer you, I think what Sargent said, my recollection is, that Senator Sargent said that

there were 500 men on Bear River directly engaged in mining in a population of, I think he said, several thousand

Mr Cadwalader Did not he say directly or indirectly? A. He did not. I noticed that he was misrepresented by the—

Q. By the reports or by the newspapers?

A. By some of the newspapers or some of the anti miners, who absolutely mistated what Senator Fargus had testified to

Q. You heard that, didn't you? A. I heard that testimony

Q. You have seen the record of that case, have you not? A. I have

Q. Now I will ask you whether that precise

distinction was not taken

by Seargent? A. I think
not.

Testimony objected to
The Court It seems to
me that is hardly im-
portant

Mr Cadwalader What is
the population of Nevada
County? A. The popu-
lation of Nevada County
is nearly 21000, I think

Q. How many town-
ships is that county
divided into?

A. It would take me some
little time to remember
them

Q. About 4, is it not?

A. More than that - 8 or 10,
I believe

Q. What proportion of that
population lives in Truckee?

A. I could not give you
that exactly now, sir

Q. What proportion in
Grass Valley Township?

A. Grass Valley Township
is something over one-

fourth, I believe

2. And Nevada Township?

A Nevada Township, I suppose, about one-fifth, perhaps a little more

2. How much in Truckee?

A. I could not give you Truckee exactly now

2. Don't those 3 townships comprise more than three-fourths of the population of Nevada County?

A. I do not think they do, as much as that

2. And is it not the fact that at no time within the last 5 years has there ever been a hydraulic mine within the limits of those townships?

A. There has been hydraulic mining within the limits of Grass Valley and Nevada Townships

Q Within five years?

A Certainly,

Q Whor mines?

A The mines near Nevada City and the mines near Grass Valley.

Q Whor ones?

A The Mansineta Mine near Nevada City.

Q I am speaking of the townships of Nevada City and Grass Valley.

A Thar is in Nevada township.

Q You swear that within five years there has been a hydraulic mine in operation?

A I have seen them in operation within five years.

Q I suppose your knowledge as to mining in Russia and Australia is purely derived from publications.

A. It is ~~pure~~ derived from publications and from extended conversation with mining men who have been in

those Countries.

Q Have you any personal Knowledge upon such subjects?
A I have never been either in Australia or ~~either~~ in Russia.

Q How do you know that they had drift mines in Australia

A. I know it from my Reading and from what mining men have told me.

Q How do you know they have pursued the hydraulic system in Russia?

A. I know it in the same way.

Q How do you know that nine tenths of the gold taken out in the world is taken out by the hydraulic process?

A. Did I state that?

Q. yes sir?

A Yes sir, that had been taken out. I think was my estimate, that had been taken out, I know that from

general reading and know
it from my own observation,
Q. Well the hydraulic process
includes all known methods
of mining?

A. It includes placer mining
and sluice mining.

Q. Would your observation
enable you to make any
computation that you would
be willing to present to
the Court, that is your
own personal observation?

A. It would not. The
observation of no person
would be worth anything
compared with what he
ascertains from authorities —

Q. That is the way that
you —

A. Allow me to finish,

The Court If you want to
qualify it you can do so

A. I say simply that in
a question of that sort
that it is ridiculous for
a man of his own knowledge
to attempt to state any

Such proposition,
Mr Cadwallader Why when
 you were directed by the
 Court to confine your
 observations to your own
 personal knowledge didn't
 you qualify this in such
 a way as you do now?

Mr Belcher I object to the
 question as not being a
 proper question to be di-
 rected to the witness. The
 qualifies it by saying "
 when you were instructed
 by the Court to do so and so
 why didn't you do so and
 so" Now if he was instruc-
 ed by the Court, I take it
 that the Court will take
 care of it itself. If its
 directions are not obeyed.
 If he desires to know
 why he did not make
 certain calculations he
 should ask it without
 any such preface or ad-
 dition.

Mr Starr Our object in this

is to ascertain from this
 witness why, when he
 undertakes to speak from
 authority he does not say
 "I am speaking from this
 man or that man"; why
 he undertakes to come into
 this Court and absolutely
 swear to an amount which
 it is utterly impossible for
 a man to know; why it
 is that he can come into
 this Court and swear
 that 90 000 000 or 900,
 000 000 has been taken
 out by by draulic process
 when it is utterly im-
 possible that he should
 know any such thing,
 and why in making
 those statements he does
 not distinctly declare he
 is making those statements
 of fact from something
 that has been stated by
 somebody else. That is
 the object of the examination.
 We have a right to ask him

why he did not do that
The Court The objection to
 the question is that it
 assumes that he was
 told as to these particular
 things by the Court to
 only answer as to his original
 observation

Mr Start I do not care any
 thing about that part of the
 question

The Court That is the
 point that is being objected
 to

Mr Belcher Yes sir that
 is the style of the exam-
 ination

The Court Omit that and
 ask the question and I
 suppose it will amount
 to the same thing or you
 can ask him if he was
 not directed

Mr Caldwell Q How
 comes it that you did not
 qualify your statement
 upon these subject matters
 as you do today by stating

that they were chiefly derived from reading rather than by personal observation?

A I believe a child in listening to me would have known that fact - I do not know how it was with yourself, but a child would have known that fact.

Q That is the reason why, is it? A It is self evident, the answer to that question

Q You are quoting history and you think we ought to know it? A Well I may be, and I think I am, in regard to the production of gold, more familiar than most persons with whom -

Q But that is not the question - How do you know that these gravel deposits are limited to the spaces ^{at} which you fix them? A I have not fixed them in any

particular place I think

Q How do you know the area of the unworked part of the Gold Run district, did you survey it?

A You mean, I suppose in regard to its length

Q And breadth Did you survey it? A I did not

Q You merely guessed at it did you? A I did not

Q Did you take the statement of other people?

A I measured the distance on the map which is the only proper way to obtain distances

Q How measured it on the map? A Yes.

Q How did you measure the width of the channel?

A I was where the channel has been exposed and saw what its width was there and I know generally in regard to the width of those channels

Q They vary a good deal don't they? A Sometimes they vary

Q They vary from 100 feet to 3000 don't they?

A I have never seen any channel 3000 feet wide or anything like it

Q Is it not stated in Bowies Work on Hydraulic Mining that channels are from 100 to 3000 feet in width? A I do not think he states that. It is very different from my observation

Q How did you know the formation of the bed rock of this channel?

A It is easy to see the rocks there

Q From its section?

A It is easy to see the rocks exposed in the bed rock at the bottom of the pit for instance, you can see the rocks on the hillside where

we look for them

Q What would be the effect upon the deposit of gold in one of these old river channels where there was a steep grade or a smooth bed rock or a straight river? A The deposit of gold depends on the character of the bed rock. In the mines technically known as drift mines, there the bed rock —

Q Answer my question

A I cannot answer it in any other way

Q I will put it in this way: how is the deposit of gold in a river channel affected by the steepness of the grade, first; the roughness or smoothness of the bed rock, second; and the straightness or crookedness of the river, third? A Probably the river channels would be

a little richer at the bends in these ancient rivers. The roughness of the bottom or the smoothness would influence the deposit of gold in a drift mine, what is technically known as a drift mine, because the pay gravel is limited to within a short distance of the bed rock.

Q How short? A Generally the most of the gold is within 5 or 6 feet of the bed rock, or within two feet from bed rock in fact.

Q And it runs to 15 feet?

A I have never seen any mine where they have drifted 15 feet.

Q Are there not a number of mines of that character mentioned in Bowie's Works on Hydraulic Mining, where it is 15 feet?

A Allow me to finish my answer to your first question: in the drift mines

where the larger portion of the gold is contained within 2 feet or not more than 3 feet ~~from~~ the bed rock has a great effect no doubt in the amount of gold which is found; in what are known as hydraulic mines, where the gravel is of very considerable thickness with the gold comparatively regularly distributed for quite a large distance from the bottom, the character of the bed rock does not make very much difference except in the gold which is immediately above the bottom.

Q Now the steepness of the grade? Alwell I do not know that that has any effect. I have seen some very rich gravel on very steep grades. The reason why is that these grades although steep now

of the ancient channels,
 may not have been steep
 at the time the gravel
 was deposited because
 the surface has probably
 been, as the geologists
 say ^{or} ~~an~~ topographically
 changed

Q Now do you know there
~~was~~ is so much gold
 on the unexplored portion
 of the Gold Run deposit?
 You have given us your
 data? A The data
 is that I know that in
 all these gravel deposits-

Q ~~entirely~~ No, in this
 particular case, the
 data of this particular
 case, the data of that
 particular mine?

A I am going to give it
 to you if you will allow
 me

Mr Hart It is not neces-
 ary to make an elaborate
 speech about all the gravel
 deposits A If you want

an intelligent answer you must allow me to elaborate

Mr Hart He asked you for an answer as to the Gold Run Mine and we are entitled to have it

Mr Caldwell Q How did you arrive at that?

A Shall I give it?

The Court Yes sir

Mr Caldwell As to the Gold Run Mine?

A I understand that, but I judge of the Gold Run by what I know of other mines

Q Well that is what I want to get at, I want your data for this mine.

Mr Belcher He is undertaking to give them

Mr Caldwell We insist that the witness shall confine himself to the data for this mine, that is if he has any and if he has not he can just say so.

A. I have the data but

if I am not allowed to state them I cannot give them to you

Mr Becher The Court allows you to state them as I understand it.

The Court Do you want simply the physical appearances at Gold Run from which he makes his computation?

Mr Leadwelder Yes sir that is it

A Ask your question in that way - please change your question

Mr Leadwelder A That is it then: How did you arrive - what was your data -

Mr Becher <Intg> If you ask the question I insist the witness shall be allowed to answer

Mr Leadwelder I will put it in this way: - You estimated the channel to be a given length didn't you?

A I did

Q And a given depth?

A I did

Q And a given width?

A I did for the Works - probably for their Works

Q And you assumed that it had so much gold per cubic yard? A I have not, I estimated it that it would carry about -

Q (cut?) Answer the question A I did not make any estimates in regard to cubic yards at all

Q Well what was the yield per cubic yard in your estimate? That is what I want to get at

A I can give that to you if you like.

Q Well give it to me A Well about 30 cents a cubic yard

Q Was it not about 26?

A I think about 30 cents is my impression

Q Didn't you hear Mr

would testify that the pay
in the explored part of that
pit was between 5 and 10
cents? A I did not.

Mr Belcher I object to that;
whether he did or not is
a matter immaterial

Mr Loudwaleader Q Is it
not a fact that the pay
there is between 5 and 10
cents where it had been
explored? A It depends
on how much of the lower
gravel you wash what
the pay is. There is what
is called the pay lead
which is a narrow ribbon
running through the bottom
gravel in the channel.

If you get off that pay
lead you wash a great
many yards of gravel
and get hardly any gold
from it when the pay
lead is ascertained then
the skilful miner follows
that, leaving unworked the
two gravel on either side

if it be on both sides, which is never worked

Mr Caldwell asks Q Have they been operating it in a skillful manner or in a manner that would produce 30 cents a cubic yard so far as you know.

A In opening up a mine like that —

Q Luntz > Answer that question A They have worked it in a skillful manner I consider it thus far. Let me hear the rest of that question

< Question repeated >

A They have opened it up in a skillful manner, but in opening up a mine of that sort it is impossible to know where the pay streaks is. The only way you can ascertain where it is, is by working clear across the Channel which has been done at the Gold Run Mine and therefore

their past workings are no fair index of what their future will be in regard to the yield per yard

Q You never worked that mine did you? A I never worked that mine, I have worked many other mines, similar mines

Q You never saw a clean up here did you? A No Sir I never ^{saw} a clean up

Q You never took any gold out of there? A I never took any gold out of there

Q And you have never been below the surface of the unworked deposit?

A I have not of course

Q Now I would ask if in estimating the yield of gravel properly even under the best circumstances whether or not the most careful opinion drawn from immediate facts is not owing to the nature of the deposit, necessarily

qualified? A necessarily qualified more or less, it depends a great deal on who makes the estimate and what his knowledge is

Q Even under the best circumstances? A I think I can make in a property with which I am familiar quite an accurate estimate as to the gold to be extracted

Q Do you pretend to have great knowledge on this subject that is of ascertaining the amount of this hidden treasure than other authorities, or than any man in the world or the authorities or the Authors who have written upon that subject?

A That is a delicate question, but I will answer it if you insist

Mr Belehers Name your authors if you want him

to compare authors
The Court "Any man in
 the World" is a proper
 question

Mr. Badwalader well answers
 my question in this:
 whether or not in ~~the~~
 estimating the yield of
 gravel properly under the
 most favorable circumstances
 the most careful opinion
 drawn from immediate
 facts, is ^{not} owing to the
 nature of such deposits
 necessarily qualified?

A It is qualified more
 or less but I have made
 estimates and the results
 of working the mines where
 I have estimated have
 shown astonishing correct-
 ness in my original
 estimates

Q Is not that the cause
 why mining is classified
 as an extra-hazardous
 pursuit? A I do not think
 gravel mining is classed as

an extra-hazardous pursuit. if you keep litigation out of the question

Q Well is not mining, all classes of mining classified as an extra hazardous pursuit? A Hydraulic mining if pursued by people who understand it thoroughly is no more hazardous than coal mining

Q Do you know whether or not your calculation as to the amount of material washed out by the water which was in fact used in the Gold Run pit or in the Indiana Still pit was correct? A I have no doubt it was correct

Mr Hart I move to strike ^{that} out. That is not an answer to the question. The question was whether or not he knows that the figures from which he

made that calculation
are correct.

Mr Caldwell Do you
know whether or not the
figures are correct upon
which you made your
calculations of the
amount per miner's men
washed out of the Indiana
Steel pit?

A. I believe that they are
Mr Hart I move to strike
that out as not-responsive.
He did not ask him whether
he believed it; we asked
him whether he knew it.

The Court Can you an-
swer as to your positive
knowledge?

A. I can state of my pos-
itive knowledge, that I know
it to be somewhere near
the truth

Mr Hart We do not ask that;
and I think this witness
ought to answer like any
other. We ask him whether
he knows that those fig-

ness are correct. Now, he knows
whether he knows or not

The Court There are degrees
in knowledge, I suppose.

Mr Stant We want to know
whether he knows on that
subject. He throws him-
self in conflict with
men who do know

A I will answer your question if you will allow me to directly. I do not know it absolutely of my own knowledge.

Mr Goodwallader Well that is an answer to the question The Witness But allow me to explain. I directed a survey to be made of the pit. The survey was made and the results given me. After that under the direction of the State Engineer Another Engineer made a survey of the same pit and the results of those two measurements are about the same and therefore I am right in saying that I know. Certainly know as well as any reasonable man can know anything almost that that is the quantity of material that has been taken out. I know from an examination of these books the amount of

water that has been used and that gives four Cubic Yards. That is rather more than what I supposed it could have been if I had been estimating it from my experience in other mines where similar material had been washed, I would have said three and a half.

Mr Hart I say that the witness has no right to swear to things which he has gained from others, he has no right to swear to a survey that was made by Mr Uren, Mr Uren is a proper man to swear to that survey, This is hearsay testimony, All we want to know is whether he knows it to be true and he has answered that he does not know and he goes on to make elaborate explanations We do not want his explanations. The other side

Can draw them out if they desire them.

The Court I do not know how the witness can answer except to give you the degree of knowledge that he has.

Mr. Cadwallader Do you propose to swear to the correctness of the water account?

A. I do not.

Q. Do you propose to swear whether Mr Wrens estimate of 43,000,000 or Mr Grunkys survey of 46,000,000 are correct?

A. I would swear that I believe them to be correct.

Q. Both of them. One is 43 and the other is 46?

A. They are practically the same, dealing with such large masses.

Q. From which did you make your estimate?

A. It would make very little difference from which.

Q From which did you make your estimates Grunskeys or Urens.?

A. It would be about four Cubic yards by either.

Q From which did you make your estimate?

A. I have forgotten what I said about it exactly. if I said less than four Cubic yards it would be from Urens measurement. if I said a little over four Cubic yards it would be from Mr Grunskeys. I do not remember which one.

Q Do you recollect now whether you took the 46,000.000 or the 43 as a basis?

A. I do not remember which I took. They are practically as I tell you the same.

Q You always make a very critical estimate when a critical estimate helps you?

A. I do not.

Q And a careless one when it does not?

A. I do not by any means.
 Q Well is it at all in keeping with the practice of engineers to lay aside as an ingredient 3000000 of Cubic yards out of a total of 46 ?

A I do not exactly understand you.

Q Do you consider it an unimportant circumstance in estimating the duty of water a discrepancy of 3000000 of Cubic yards in a total of 46000000 ?

A. I would not regard that as very great in calculating or stating about what the duty of a cubic inch of water was, such a discrepancy would not be very great - 3 out of 46. But there was not that difference if I remember right between Mr Grunskey and Mr Wren. The difference was some 200000 yards I think.

Q You spoke of certain methods for measuring water in Italy and Spain I believe being the same as that employed in this country?

A. I think I said something about that.

Q How did you get your knowledge on that subject?

A From reading and also from descriptions by persons who have examined carefully how they measured water in those countries.

Q You say that the deposits from the hydraulic mines has diminished in the last eight years?

A. I think that it has. That is what I said.

Q To what extent?

A. It would be hard to express it accurately but simply as a general proposition I believe that it has diminished.

Q What do you attribute that to ?

A To the fact that instead of a great many mines that formerly worked surface gravel where water would wash off a large amount of it and over very steep grades that now they are working in the hard bottom gravel with grades of less inclination than were formerly used.

Q That is they are getting out of dumps ?

A They are getting different dumps. They are working a different character of gravel.

Q You say it is from that cause ?

A I did not say anything in regard to dumps.

Q Do you say that a great many hydraulic mines have not stopped for want of dumps ?

A I have said nothing

About it.

Q Well I ask you?

A. Whether they have or not?

Q Yes?

A. A few mines that I know of have stopped for lack of dumps but few though.

Q In regard to the Gold Run flume did you see it?

A The flume that is used for the present tunnel.

Q Yes?

A. I have seen it, I have seen the lower end of it

Q, Did that have sufficient Capacity to Carry all the Material that the water washed from the bank?

A. Of course it had for all of the material that was washed through it, it had sufficient Capacity to Carry it.

Q All that Could be washed from the bank?

A. You Can wash three

Or four times as much material from the bank as the flume will carry at one particular time.

Q With how many Giants A. You may do it with one Giant or with a dozen

Q What size?

A. Well you can have them of any size.

Q I know, but you are speaking of one Giant being enough to exceed the Capacity of the flume.

A. One Giant which would wash ^{with} 1200 inches would deposit more material than the flume could carry.

Q Well what kind of material?

A. Gravel, the material that is in the pit.

Q Top or bottom?

A. Either top or bottom

Q Either or both?

A. Either or both.

Q With how many inches of water?

A Say a thousand or 1200 inches, It would make no difference even if less were used.

Q Then you say with a thousand or 1200 inches you could wash out of that bottom dirt more than the flume would carry?

A. It would.

Q Next to the bed rock?

A. If you are washing immediately on the bed rock it would be difficult to get this heavy stuff through unless it was broken up finely. If it should be broken up finely as the miners break it up it would wash more than the flume would carry.

Q Has not this flume carried nine cubic yards to an inch of water?

A. I should say not, ever

Q Did you not say that the cuts in the hill sides

had }

A I think I said that
yes, they had steeper grades
as I said.

Q Well did they not have
rougher bottoms, I think
Mr. Where they had bottoms
they had a paving of blocks

Q Did you make any in-
vestigations during the day
and a half you were
there? a About what?

Q About how much a
miner's inch would wash
of that top material?

A My knowledge as to
what a miner's inch will
wash has been the result
of ten years experience or
twelve years

Q I am aware of that
but I understand you to
say that you never made
any experiments there on
that top earth or that
top gravel? A By actual
measurement?

Q No, by actual use?

A I have seen it used there frequently before

Q You say you never made any measurements do you? A I have never

made any measurements of it. No. I only know how much top gravel would be washed from the pits at Gold Run — Q. How much of that top gravel would be washed? A Let me finish

please. I know the amount only in regard to the amount of that surface gravel at Gold Run which a miner's inch of water would wash by my knowledge of what in other localities a miner's inch will wash under similar conditions

Q You stated that 9 inches could be washed — had been washed through the cuts, the old cuts?

A I said 9 yards probably

Q Had been washed through the cuts? A Yes that is

my estimate

Q Now you say that 9 yards could not be wasted through the flume? A I think not

Q Well of the top earth? A No sir, not of the top earth

Q Not of the red earth? A No sir I think not

Q How much can be wasted? A I think 7 or $7\frac{1}{2}$ would be the limit in that mine, probably not that much. I will pay seven yards. In fact I do not think $6\frac{1}{2}$. I will put it lower still

Q You say that a monitor carries 15 times as much water as would formerly be discharged from one jet?

A I did not sir

Q You did not? A No sir I did not.

Q What was it you said?

A I said that the monitor which is being used now

was 15 times larger than
one jet which was used
in old times when I first
knew the mines; but Moni-
tors are of all sizes and
the old fashioned nozzles
are of all sizes

< Recess until 2 o'clock p.m. >

In the Superior Court
of the State of California
in and for the County of
Sacramento

The People of the State of California vs.	} Afternoon Session Thursday Dec. 15/81
The Gold Run Ditch and Mining Company	

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Winifred J. Davis
Official Reporter

In the Superior Court
of the State of California
in and for the County of
Sacramento

The People of the State of California vs.	} Thursday Dec 15/87
The Gold Run Ditch and Mining Company	

Afternoon Session
Cross-Examination
of
Hamilton Smith
resumed

Mr. Cadwalader You don't want
to be understood as saying that
the monitor performs no
other office than that of
simply bringing the bank
down? A I do

Q What do say upon the
subject of pulverizing? or
breaching up the bank?

A. Where a monitor is
used, the water is dis-

Charged from the monitor against
the gravel in the lower strata
similar to that in the Gold
Run mine, it is expected
practically to do no cutting
with the water at all.
That is done first by blasting
the bank up with powder
and afterwards breaking the
material with sledges where
it has not been sufficiently
pulverized by the powder.
The object of a monitor in
washing the gravel of that
sort is almost exclusively
confined to furnishing and
concentrating the water by
which as large material as
possible may be washed
through the sluices.

I yn say that the monitor
does not help pulverize the
bank? A But very little

I am sure of that?

A Yes sir. I can state as
an illustration —
Mr Cadwalader (Intg) never
minds about that

The witnesses I want to state why I am sure of it. At the Bloomfield mine, for instance, we use a very large nozzle on our Monitor; and thereby diminished the pressure of water as it escapes very much indeed. We very rarely there use small nozzles. ~~When~~ With a small nozzle, of course, the pressure and the velocity of the escaping water would be very much greater than with a large nozzle.

Do you rest on your answer, that the monitor does not, in any appreciable degree, pulverize the earth?

A Oh, I think it does in an appreciable degree.

In making washings from deep banks, at the top washings, there may be a considerable degree of pulverization, of course, by the force of the ~~jet~~ of water. But in the lower washings

to which I have had particular reference, there is no pulverization by the jet of water.

Q. Is the monitor used for the purpose of carving the bank down, solely? A. I have explained that fully.

Q. Is it used solely for that purpose? A. It is not

Q. It is used partly to sweep the broken bank into the cuts or drops? A. Yes sir.

In washing the bottom gravel down the sluices. Chiefly for that purpose in that character of material. I say that in the top gravel it is often used for cutting.

Q. Is it not used for sweeping?

A. And for sweeping besides.

Q. And both in a large degree?

A. No. As I told you before. The bottom gravel as I told you before, does not succumb to the force of the water as applied for pulverizing purposes.

Q Without the monitor Cured by draught mining be carried on as extensively as now?

A I think it could be. It could not be carried on as profitably but it could be carried on as extensively. There is no question as to that.

Q Do you say that it does not add to the rapidity with which the Earth can be washed over previous methods?

A It does not add to the amount of material which can be washed from the mine, because that depends as I said before, on the grade of the sluice, the amount of water and the kind of material. The mine is never troubled in finding means to break up and pulverize much more a gravel than the water running through the sluice will remove in any mine I have ever been in.

Q You make it depend on the character of the material, the grade of the sluice, the amount of water, and nothing else? A Yes sir; that is it. It might be subject to an exception which would simply prove that was the rule.

Q You say the pressure or force with which the water comes out of the monitor has nothing to do with pulverizing the earth?

A It has something to do with it; but it is unimportant compared with the other means about the main tube for pulverizing.

Such as the powder and the shaping up afterward.

Q Have you not stated that it was necessary there should be some great pulverizing agency in successful hydraulic mining?

A I don't know that I have stated it, but I will state

So know.

Q And will you state that that is not the Little Giant?

A That is not the Little Giant, as related to the bottom gravel or the cemented gravel.

Q Is it well exposed to the bank or upper portion?

A I say it is. You don't need any pulverizing in the upper gravel. The water washes it right out, and it comes down in benches, pulverizing as it goes down.

Q Suppose it lodges as it is coming down? A You keep your water going constantly against a bank, continuously, and you will generally have 10 times more material coming into the sluice than the sluice will carry.

Q I ask you, where there is a cave: Does it pulverize the bottom part of that cave? Imit that done by the miner?

A In the top gravel you don't need

pulverizing.

Q Well, can't you say yes or no to that question?

A It is impossible to say yes or no to such a question.

Q What do you say about the American River from Folsom down to Sacramento, as to the amount of water it has or will carry as compared with what it was in 1860? A I say that in my judgment it will carry more than it carried in 1860.

Q From Folsom to the mouth of the river? A I do not say from Folsom to the mouth of the river. I will say from Folsom to about Brighton.

Q Well, does the American River from Folsom down to its mouth carry as much water as it carried in 1860?

A I can't answer that question. I never examined the river below Brighton. So as to be able to answer

That question, not with
Saffernent came up to be able
to answer that question.

Q How much time have
you spent in Examining the
American River from Brighton
to Polson? A. I have
spent two days in direct
Examination. I have been
up to Polson Seventy times
before.

Q When did you go there to
make your Examination?

A I went about a month
or six weeks ago. About
the time this suit was set for
trial.

Q You went up one day and
came down the next?

A. I did, on that visit of
inspection.

Q You travelled in a wagon?

A Yes sir.

Q And that going up and
coming down was the only
time you ever Examined
that part of the river?

A Yes sir, with any care.

I had been on the Rail-
 road frequently before
 Q The line of the Railroad is
 not in view of the river?
 A It is in some places?
 Q Where? A As you get
 up toward Holcom.
 Q Whereabouts?
 A Just below Holcom, you
 get a general view of the
 river.
 Q You can see it for about a
 hundred yards?
 A No, in further than that
 Q Two yards?
 A Hardly than that.
 Q About a mile?
 A It is closer than that.
 Q You say that from Brighton
 down your Examination has
 been still more superficial?
 A I have not said that my
 Examination of any part
 has been superficial at all.
 Q Didn't I understand you
 to say a few moments ago
 that you had not Examined
 the river with much care.

below Brighton? A I did
 2 To your knowledge of the
 river submitted to the examination
 you made of it? A It is not

2 You never lived upon the
 banks of it? A I have not.
 My knowledge of it is derived
 mine, or is very greatly de-
 rived from this map which
 you have submitted. It is
 a very good map, and gives
 an Engineer a very excellent
 idea of the American River

2 Now you are praising the
 map? A I consider it
 a very good map, yes Sir.

2 Because it is made by
 an Engineer in whom you
 have a great deal of con-
 fidence. a great deal

A I have confidence in the
 Engineer who made it. I
 believe it is a correct map

2 Don't you know that the
 choking of that river, of
 the mouth of that river,
 with large deposits of sand,
 necessarily impairs its

Carrying Capacity?

A If its mouth were choked with large quantities of sand it would impair its carrying Capacity for some little distance above where it was choked.

Q Don't you know that river is choked from Dryden down?

A I do not.

Q Have you examined it to see? A I have been across there.

Q Where? A I have crossed the river above the Railroad bridge or by the Railroad bridge. And at the Railroad bridge. And opposite the mouth. This year and before.

Q How long were you at the Railroad bridge? A I have often been across on the Railroad and I generally noticed the river as I passed.

Q That is not it? I refer to the particular time when you made this Examination that I have been speaking

of how long were you there?
 A A short time comparatively
 Q 15 minutes?

A Perhaps 15 minutes

Q How much time did you
 consume in your Examination
 of the mouth of the river?

A I have looked at the mouth
 from the other side of the
 river quite often.

Q I mean, when you Ex-
 amined it a short time ago?

A Merely glancing across the
 river; that is all

Q How long did you engage
 in that glancing process?

A I don't suppose that it
 took me very long to glance.
 I have very good eyes.

Q. I go back a little: do
 I understand you correctly
 as saying that the deposit
 in the Gold Run mine is
 or is not in a continuous
 channel? A I think it
 forms a pretty general sys-
 tem of channels.

5938 Q Did not you say yesterday

that the pay lead in the Good Run mine was not in a continuous channel?

A No sir, I didn't say that at all.

I didn't say that it could not be mined by the drifting process because the pay dirt or Earth was not in a continuous channel?

A I state that at the Bloomfield mine —

Mr Hart. That is a question susceptible of an answer of yes or no.

A I did not state that specifically in regard to that mine. I said it in regard to other mines.

Mr. Cadwalader Did you say that that was so in regard to hydraulic mines generally. I will tell you what I did say.

I did say that that was so in drift mines generally? a I can tell you what I did say.

I Well, I will put it in this way: didn't you say on yesterday that by drandle mules could not be worked in the drifting process? because the hay, stacks or leads were not in continuous channels? Answer that question, yes or no? A I stated that in some cases that was so. But I did not state that was so as a universal proposition.

I Didn't you state that as the general proposition is false with respect to working by drandle mules by the drifting process? A I don't think I even stated that as a general proposition. I certainly did not state that it was universally the case.

I. Didn't you use that as an illustration: why drifting could not be resorted to in by drandle mules?

A I stated that in one particular case which I mentioned

That was one reason why the drifting process could not be adopted. Because there was no profit in drifting.

Q Didn't you use that as an illustration of your proposition that by damming rivers could not be profitably worked by the drifting process?

A That was one of my illustrations and only one.

Q Was it not the principal one? A It was not.
Q I suppose the records will show the fact?

A I don't know whether it will or not. As I did not go into that very fully yesterday I can tell you now about it if you wish to know.

Q We can tell by reference to the record, Mr. Smith? A I understood you to say, yesterday, that the grades of these ancient river channels varied from 20 to 230 feet per mile.
A I have forgotten the figure which I gave. I say, however,

that I have seen them vary that much. That is, there are extreme grades.

I just state, if you please, the minimum and maximum of these ^{widths} ~~proportions~~? A. On the bed rock?.

I. As you have seen them? As you have seen them in the Channel?.

A. In the Channel or on the surface?.

I. Both ways?.

A. I have seen in the Channel widths from 125 feet wide up to 500 feet, perhaps. It is pretty hard to say sometimes just what the width is, because it's trough often lies in lanted or narrow sections.

I. Didn't you say yesterday, that you had seen or that there were some Channel 2000 feet wide? on the bottom?.

A. I did not.

I. Didn't you state that some of them were larger, wider, than our largest river?.

A. Nozic. I state that the amount of water which came down these ancient channels was certainly larger than that contained and carried in the present mountain streams.

I didn't say the amount was larger than that contained in our largest rivers?

A I did not say so. or I didn't intend to say so.

I Well, what you do say will appear by the records?

A I need not have intended to say that the amount was larger than our largest river. I must have meant the amount carried in one of our largest mountain rivers. If I said what I meant I said that

I do you pretend to say that there is a uniformity in the gravel deposits so far as gold is concerned when the grade varies from 20 to 230 feet per mile?

A The change in the grade

are not —

Q {Integ} Answer my question
The Reporter read the question

A I find rich gold, well gravel
in both. Both in light grades
and in steep grades

Q Well, how comes it to be on
the steep grades? Is it richer in
the steep grades or in the light
grades? A I have seen
some very rich gravel in
very steep grades.

Q How comes that to be, as
a general thing?

A What do you call a steep
grade?

Q 200 feet to the mile?

A That comes from an Exap-
tion, but I ^{have} seen some very
rich gravel on a grade of
200 feet to the mile or 4 feet
to the hundred

Q Didn't you say that gold
would be found in the ancient
beds — didn't you say this
in substance — just about
where they would be found
in the present river beds?

That is, that the lay of the deposits is about the same?

A I don't think I saw that. But I will say to you as a general proposition.

I say that the original mining in this country was river mining? A Yes sir.

I mean by that mining in channels, as contradistinguished from mining on bars?

A No sir. Mining on bars was naturally the first, on the bar and ravines.

I Was there any gold deposited in the channel of these rivers that amounted to anything at all? A In the

deep holes, there never is much gold. Not to amount to much. If that is what you mean.

I What would be the character of the gravel in those deep holes? A There was none or very little, there

I What would be the character of the material

that fills these deep holes?
A Gravel or cobble, I suppose

I Now as to the sand, that was washed down? Would any wash in there?

A Well, whatever was washed in generally. But from the fact of there being deep holes, it was probably there was soil, and cobble, and heavy gravel at the bottom

I Now I will ask you: If nearly all the attempts to get gold out of the channels of the river, have not proved failures? A Oh, I think not. It has been got out by the processes called turning rivers, or damming rivers. Sometimes it has been successful and sometimes it has been unsuccessful

I Where the water runs, can there be or would there be, naturally, anything in the bed in the nature of clay. —
5946 Where the water is running

A Clay will naturally deposit where the current is least

I Say the current was running three miles an hour?
Would there be any deposit of clay in the bed of that stream?

A Probably not, but I would not say for certain. Clay is deposited in eddies as a rule

I You were not here during the era of river mining?

A No sir. But I have seen considerable river mining though since I have been here.

I Do you mean to testify that the gold in the gravel deposits is deposited in equal parts or deposits proportion throughout the length and breadth of the gravel deposit?

A I did not

I Would there be any other way - Well, that would be calling for an inference?
State -

A (Inté). Seems like to

Explain with reference to my
 last answer. I may have
 misunderstood you. I don't
 want to seem or appear to
 contradict myself. I do say,
 and I probably have said,
 that there would be a prac-
 tical uniformity when you
 measure one mile on the
 Channel, or the length of a
 bar and then measure an-
 other mile. The amount con-
 tained in these two miles,
 with an even length and depth
 of deposit would be about
 the same. With that ex-
 planation I should say there
 would be a uniformity.

2 I mean: taking the river
 as it was made; wide in
 some parts and narrow in
 some parts; big hills in
 some places, and no hills
 in other places; falls in some
 places and no falls in other
 places; strong current in some
 places and no current in
 many places: under such

Circumstances would the deposit of gold be an equal deposit? Throughout the matter found in the bottoms of the river?

A I don't think your supposition is true as a matter of fact.

I suppose that were so?

A If your supposition were true, there probably would be a difference in the amount of gold deposited.

Q Gold in its depositing follows pretty nearly the law of drift wood coming down the stream, does it not? A. Gold is drifted down the stream in certain instances.

Q That is true? is it not? gold passes from these mines into the Sacramento River?

A More or less

Q Amalgam does the same thing? A. Amalgam, more

than gold, probably

Q Comparatively a few sands of gold come down:

Q Does silver will come down?

A Quicksilver when flowered^{ed} floats on the surface. I should say then would be more Quicksilver than gold.

2 Well, without being flowered?

A Well, there may be some small globules of quicksilver come down. When it is made greasy it will float in water for a small distance. It will go for small distances.

2 Does not this sand have the same specific gravity as gold? This sand that floats down the river?

A It moves down the stream much more rapidly though often very gradually. It has not the specific gravity of gold.

2 It has the specific gravity of iron? A Yes sir, nearly that of iron. That is magnetic iron ore.

2 I will ask you whether the value of the bottom existing on a river channel

And depends on a variety of
Circumstances which may ex-
ist in one form or another.

A It does depend on many
Circumstances.

I And that makes mining spec-
ulative? A Not ~~many~~ ^{very}
necessarily if you know what
those circumstances are and
how much each particular
objection will cost to over-
come.

I But when these things are
covered up by litter and de-
posit and trees and you have
never bored in or sunk shafts -

A {Intg} Some times we do
it. I mean, where you have
not? A It that you question

I Yes sir? A. Where the
lava is of a very considerable
depth, as you may know
that the gravel channel is
worthless so far as hydraulic
mining is concerned. But
where it is not covered by
lava, and you know the
surface - you know there is

No lava upon it — no other circumstances, confusing or intervening, it is very easy to calculate about the amount of gold in it especially if you have worked on some channel near by

Q Can you tell the width of a channel until you get down on it? A Well, it don't vary very much

Q Haven't you said that they vary from 100 to 1000 feet? A I have never said any thing of that sort

Q Well, I will ask you if that is so? A It is not

Q Didn't you say yesterday that in some instances it varies 2000 feet?

A I did not. These channels; no sir. If I was understood to say so, I didn't mean it

Q What is your maximum width? A About 300 or 400 feet

Q What is the minimum?

A Down to 100 feet, and may

be a little less in narrow points. That could hardly be called the Channel, however. That could be a groove cut out

Q That could hardly be called the Channel? A It could hardly be proper to call it the Channel

Q You have described them to be sinuous in their courses?

A Yes sir

Q Have they tributary stream?

A Yes sir

Q Have they varying widths?

A They have on the surface. But as a rule they have not on the bottom.

Q With a change of grade from 20 to 230 feet?

A. I think I have seen such changes of grade in California. I believe so.

Q And sometimes taking the forms of Estuaries as well as rivers?

A Well, I never saw anything I took as Estuaries

2 I mean in the form of an estuary? A Some Estuaries have the form of a river

2 How much lower is the deposit at Smartsville than at North Bloomfield?

A My impression is that it is about 200 feet. I can tell you exactly if you wish to know.

2 There would be no disappointments in mining speculation if Experts actually knew what these river channels contain? would there?

A I don't know whether there would be or not.

2 Are there not a great many circumstances which control the operations of these mines as to the production being profitable or unprofitable, and would not that be so even if an Expert could tell the contents of a channel?

A A capable expert would

be able to say what those circumstances were.

I suppose an Expert did know what was in the Channel & would there not be a good many other circumstances that would control these men in their operations, and with reference to their being profitable or unprofitable?

Certainly there would be

I No. 10 stated that an Engineer that was an Engineer would not attempt to determine by a single Experiment the carrying capacity of a water course? You say that the amount of sediment in a river should be determined by an Engineer, by taking careful observations and making experiments every day during the year?

A Yes sir, to obtain exact and accurate results that must be so

5995

I Well, you have expressed

a great many opinions on the
stand about the carrying or
transporting power of the Amer-
ican or Sacramento river, have
you not?

A I don't know that I have.
I have expressed some general
opinions, and I have tried
to give the data from which
they were made.

Q Have you made any ex-
periments on either of these
rivers as to the amount of
sediment they carry or have
carried? A I have not
done as to their flow?

A I have made no Engineering
measurements of their flows.

Q Well, you have expressed
opinions about their action,
and movements, and carrying
capacities?

A I have expressed some
opinions.

Q Do you know that a large
proportion of the matter that
comes down the river
rolls on the bottom?

A Some of it unquestionably does

Q A large part of it?

A I don't know that.

Q Do you know any thing about it?
A I know something about it generally

Q What would be the law of deposit of this material, say from the mouth of Canon Creek to the mouth of the river as to stratification?

A If deposits were being made continually and were increasing -

Q {Intq} No! I mean to ask you, how deposits made, say at Canon Creek, comes range themselves from the bottom of the river up? Whether in a stratified or unstratified form?

A That would depend on circumstances.

Q You take a river like the American in its different stages? and being a running stream as it is?

A. With a constant amount of the same material coming along all the time.²

Q Yes sir? A. It would not be stratified then to any considerable extent. It would be deposited then quite uniformly from the bottom up and unquestionably.

Q Where would you find the heaviest stuff?

A All the way through.

Q It would be continuous, would it not?

A I think I have answered that if I understand what you mean by the most continuous.

Q There would be the same phenomena observed as the mouth as at the upper part of the river? That is the heaviest material would be nearest to the bottom although the material would vary?

5958 A It would depend upon what it was, and from

What points it came
 I Don't running water gener-
 ally and certainly adjust such
 material and then stratify it?

A I don't think it always does
 by any means.

I Well, as a geological prin-
 ciple? A It certainly does
 not. The best illustration of
 that is the character of gravel
 formed in these ancient rivers
 I are not all stratified. Matter
 sedimentary in their origin?

A. Generally

I And does not running
 water stratify whatever is put
 into it, just as still water
 does? A No sir, certainly
 not

I You deny that?

A Of course. There are cer-
 tainly no marked stratifica-
 tions in these ancient gravel
 deposits which have been
 filled with water. That is
 the best illustration

5999 I you have answered these
 last two questions, under-

Standingly? A I think I
 did, though I may not ex-
 actly catch your idea.
 Your questions are rather vague.
 But as they seemed to me,
 I have answered them in my
 own way correctly. It would
 depend somewhat on what you
 mean by the word stratified.

I do you want to say any-
 thing more on that subject?

A I do not, unless you
 wish me to.

I well, I do not? Of
 this: 67,000,000 cubic yards
 of material washed out
 of Galeo Run before the ap-
 plication of the present em-
 pany commenced, a certain
 proportion would be cobble
 stones and gravel such
 as you see in Cain Creek
 and the river? That is,
 about Tolson?

A. I suppose that some of
 it would be of the same
 character.

1960

2 Now as to the same

material washed out at Iowa Steel, previous to the deposit made by the defendant in this case: Do you find a Cañon and River then same kind of material? or comes on if not swept away by the flood? I mean the same kind of material: Cobble and gravel stones?

A. It would be the same, if not taken away ~~away~~² And this would be of the class of material which you say remains behind? Which did not come down, or came down very slowly?

A. I do not know as I understand you. But I will say that the rapidity with which the material comes down depends on its size largely. The terms gravel stones and cobble stones are very indefinite terms in regard to size.

I will, that is a kind of play upon words? But

There is a material in that
Canyon which answers to
Cobbles and gravel which come
into the river from Iowa Hill?

A. There is certainly some
of that?

Q And from the workings
where this 67,000,000 cubic
yards was taken out?

A What points do you
refer to?

Q In the Canyon. From
Goat Run and from Canyon
Creek down?

A There may be some of
that material I can not
tell you how much. You
must be more distinct and
definite in your questioning
if you want to get my op-
inions.

Q Now when there comes
be a motion or an action
of other material coming
in subsequently, what would
be the effect, would it not
either roll over the surface
or pile up on it

A It comes do one or the other. But the wider you make your river — 2 { Intq } Never mind that.

The witness. Now goes on, and let me answer that question if you please. The wider you make your river and the finer will be the material which will lodge, because & such case the force of the floating water comes diminished. In proportion to the width the floating power is diminished. If a river be 100 feet wide, much lighter material will be held than where the same river is 300 feet in width. This thoroughly accounts for the gravel debris and the heavy boulders on the bottom of these rivers. The lighter material, of course, comes to the surface. And the faster the current, the more rapid the movement of the

Material, other things being Equal. Where the width of the river is very great the heavier material will sink altogether, and the lighter material will move with less rapidity, according to its weight.

2 Comes these subsequent deposits in the case I have mentioned, Either roll over the surface, or be deposited in the stream.

A Weel, if it were worked away it would pass over. If it remained it would be deposited.

2 Piled up on the other. A Centaur, one on the other.

2 Now was not this Mass of material, put in this Channel altogether, more than sufficient to occupy the river in the Channel. Now alleged by Mr. Wren and others to have been sent down.

A I presume it would have done so if it had remained?

I would not think 7000.000 of cubic yards. have filled that Cañon up from Gato Run to Cañon Creek, 70 feet high?

A. From Cañon Creek to Gato Run?

I To the mouth of the Middle Fork? A I should judge not. I have made no calculation on that, may be it would, I can not tell

I It might be so?

A It might.

I Now is it not true that the material that is now, must roll down the Cañon without lodging?

A Certainly not. That depends on the quality of the material

I I would not the flow or the law of motion which was applied to this great

mass of 67,000,000 of cubic yards, operate to move this material on.

A If it is different material it would not be governed by the same law, and would not be affected in the same way.

I Well, the part of it that was gravel, would move as the gravel moved previously?

A Not necessarily. If there was heavier material it would be held where the gravel would not be. Or if there was heavier material in the way, the same kind of gravel would be held.

I Suppose there were no natural obstructions put in the river? A If I understand you I will assure you. If you continue to put in again the same light material that was put in and passed down during the old times that would pass down probably.

2 I know not the sand now have a greater motion down the stream, than the sand did before all the holes in the river bed were filled up, and the bed graded as has been described by the witnesses?

A No sir. The river bed is colder now than then. And as I have testified, the order you make your river bed the less transporting power the river has.

2 Is not that only one circumstance in the case?

A It is a very important circumstance

2 You have already stated that a smooth bottom way almost a essential to any thing like a swift motion? A. I did not state that. It certainly is not true

2 You say that the same matter put in now could not have, or exhibit the

law of motion, that way
applied to the same material,
put in year ago in the same
place on the river?

A I could not say that.
Movement down a stream of
any material, simply follows
the law of gravity as a
matter of course

I will put it in this
way: It appears here that
the first half mile of Cañon
Creek has not been filled
at all? So that you have
the original surface there?
Now does not matter put
in there now move over that
surface, just the same as
it did in years gone by?

A Where it has not
been filled up

I from Cañon Creek to Rich-
ings Bar? A There is
some filling above Richings
Bar

I Now when you get into
Don Cañon below Rich's bridge,
where you find a section

of the river for a mile or two without any deposit in it at all: that is proof that all the matter below it has passed over this space? Assuming that the facts which you state are correct, I suppose that the material just immediately below that Cañon has gone down through it.

I now take the same class of matter, traveling at the same rate? with the same current? with the same amount of water? It would travel in the same way and at the same rate over this rock-bound bed?

A If the Channel remains the same, and the surface is the same, and the current is the same and the volume and velocity is the same, of course the same transporting power continues there without change.

Q And is it not true that at times part in that Cañon, the deposits have been higher than now?

A They have been at times unquestionably.

Q You believe you see marks, you say, that are 4 feet higher than the present level of deposits? A Yes sir.

Q And you describe that high water as having been etched upon the sides?

A It was in many places. I don't say etched.

Q Well, you said painted. A It resembles painting. I didn't state that as a fact, but I may state it now.

Q So that there was the great mass of matter that passed over the mouth of Cañon Creek, from the mouth of Cañon Creek, down to Rock-Empy Bar and below, having siliceous sand and fine gravel and some cobbles; with the

bed and surface remaining
for transportation now as
then? A Well, as to
the material, the sand that
passed over was not as
coarse as that which is
at the bottom now

I Was it not a fact
that Siliceous sand and fine
gravel and some cobbles
passed over there?

A There are all degrees
of sand. Some of it was
siliceous and some of it
not. It would be hard to
analyze the particular kind
of sand. There was a great
deal of it

I was not the greater
proportion of it siliceous.

A Perhaps the larger pro-
portion was. I do not
want to make any estimate
as to the proportion.

I Now say that you find
that mass of drift first came
there from the mouth of
the Canin & Peckings Bay.

And subsequently float
down the stream the masses
that came with the heavy
freshets of 1861, 1862, and
1867-8? Material that
an ordinary freshet would
sweep down in that one
Canyon? comes it full that
up as I have described if
it accumulated there?

A I cannot not say
I well, what was the
force that did bring all
that material down, if
you can say?

A Water, water in flood
time

I That was the moving
force? A It must
have been

I That was the force that
moved the 67,000,000 yards
on the plane just from
the mouth of Canon Creek
to Pictoung Ben? A Yes.

I And subsequently sent
it farther down?

A Yes sir. There can't

Be any doubt about that Sir.
 Q. Now when the same material accumulated ~~at~~ ^{consequently} and you have the same pressure and the same power of transportation, you will have the same movement from Canyon Creek to Pickering's Bar, and from there farther down, would you?

A. If you have the same material you might have the same movement.

Q. It would not be "might"? It would be must?

A. As I told you before, it would depend somewhat on the width of the stream.

Q. It could not depend on the width of the stream, where there is no change in that respect? From Canyon Creek to Pickering's Bar?

A. It would not make any difference there.

Q. Well, it could not make any difference in ~~from~~ Canyon, where there is no

deposit at all?

A. Assuming that there is none of them it would make no difference.

Q It would not make any difference above Rees bridge where there is no filling?

A There is some filling there. I think the sand will move slowly of course where there has been some filling than in the old natural bed of the river.

Q But there is not much of it up there? A No sir

Q Now to get this filling down that is hereafter to be sent it will only require the remuneration of a great of present to do it?

A To get it where?

Q To get it where similar material went originally?

A That does not follow by any means. When the material is heavy enough to lodge, permanently lodge in the river bed & it will stay there. Permanent means staying.

I don't use that word permanent in an indefinite sense. But ^{that} is a geological sense. ^{but} Lay rather in the ordinary sense of the word.

I would not the same wave of water, carry the same material, the same distance, under the same circumstances?

A Certainly.

I now suppose that the river bed is better graded than it was up to 1862 the motion would be more rapid would it not? A What do you mean by better graded?

I Well, that is an incorrect term perhaps? I should have said more evenly graded? the same inclination and the same amount of motion with a more even grade. Or a more regular inclination?

A Do you mean a smooth bed? Is that what you are driving at?

I I mean where the grade has increased and the bed of the

river has become more smooth?
 - A That is a different proposition

2 (Continuing) Whether the same water would not move the same material at a greater rate than it did before the better grade of the river was established? A Certainly. All other circumstances being the same. I could have told you that before. if you had asked me the question in that way. That is apparent to any school-boy.

2 Do you say that the heavy material exists in the same proportion in the Gold Run mine as it does in the Southern Cross and the Polar Star? A I can not say as to that. Because as I explained yesterday, in the present condition of the Gold Run mine itself I nor any body else unless it was after a very careful examination, could form a

just opening of the lower gravel.

Q If the material had been the same, or if the material to be taken out of Gold Run will be the same, it will deposit itself at the mouth of Canon Creek, will it not?

A Perhaps not.

Q It probably will?

A I don't know. I didn't have it surveyed, so that I don't know the inclination or the other data to go upon in judging about that matter.

Q It is either one way or the other? A I am going to state if you will allow me. I don't know the grade of the river as it is from Canon Creek to Pickens' Bar. And in making up my judgment as to this particular matter I went up about half way, perhaps.

I well, the fact that you didn't find any of the same material there — as you

Have testified - is pretty good testimony that it is different. It is not as heavy as this?

A. No sir. For we find it at other places where the grade is much more steep than it is by Pakenings Bar & Well, that is very good proof of the other result? That it has become more pulverized as it has gone down the stream? And does it not show that it is lighter there than it is - this material - in the Goulten Cross and the Polar Star deposits?

A I don't see how that necessarily follows. I don't exactly get that into my head I don't understand you perhaps. I doubt if I do.

Q Don't you know that the heavy matter in the Polar Star is 5 times as large as the same kind of matter in the Gold Run?

A If it is 5 times as large it could not be the same

matter, I think'. Please state
your question a little differently.

I Well, that is a verbal criticism I suppose. I mean the masses of heavy matter that pass through the tail race of the Jontham Cross and the Polar Star. And which you say are dumped in Bear River? The dumpings of those mines? Are they not 5 times as large as the heaviest matter which passes through Gold Run tunnel?

A I don't think it is that much.

I Well, what is the proportion then?

A I suppose they wash out about as large pieces at the Gold Run tunnel as they do at the Polar Star.

I Are they as large when they get to the respective dumps I mean? A You suppose them to be the same size when they are washed out?

I Not at all? But sup-

prising them to be so? are they
not much smaller when
they get to the mouth of Canon
Creek? A You will have
to form your question so that
I can understand it. I
will explain to you what I
think you mean

2. That is not necessary, Mr.
Smith. I will ask you: taking
the average of the heavy matter
that makes its appearance
at Bear River at the southern
Cross and Palaeo star dumps,
is it not vastly heavier,
than the heaviest material
that come out of Gold Run
mine at the mouth of Canon
Creek? A No sir, I
think not.

2 Well, I want you to say,
whether it is or is not?
They either are or they are
not? A I think that
both are large, equally large,
when they are taken out, and
all this heavy matter lodges.
2 I mean at the dumps?

A The dump of the Goose Run mine, I consider practically in the North Fork of the American River

Q Did you go down to Rice's bridge? A I did

Q How long was you there, or going down there?

A Only one day

Q Did you see any masses of that heavy material there?

A I saw a great deal of heavy material there

Q Lying where? A The heaviest material is that near Putnam's Bay as a general thing.

Q I refer to the old heavy deposits there? A I saw some, sometimes there

Q How much, or how many pieces did you see of that old heavy material?

A It would be hard to tell. I saw some

Q Did you see any in the channel of the stream?

A The channel of the

Stream was generally covered with small pebbles. If there was any in the channel I don't think I saw it.

Q Did you see six pieces on the bar? A I think I saw more than that.

Q Did you see seven?

A I think I saw more than that.

Q How many did you see?

A I need not say. Seven pieces amount to nothing.

Q Infer to that old Conglom. Rate? A I understand you.

Q Was there not a great mass of this stuff which you saw in going down to River Bridge, these stones freed from cement? Cobble stones freed from cement?

A To the eye the largest amount of material that one notices in going down there is sand and small gravel, settled around or on top of boulders. It requires some little care to notice

That but you can see boulders then weighing 200 lb. that come from the mounds

I are not the boulders then free from cement, those which have been crusted down.

A Generally

I Don't they form the great mass of the matter?

A As I told you the surface mass is generally sand and small gravel. That is what you notice as you go down there now

I am to the deposit upon the surface now: How will that move with respect to the sand which is buried deeper?

A It will move very much easier

I And that will move first.

A Yes sir, as a general thing, I should suppose so.
I And it will travel on the surface over the over deposits?

A It will if it travels at all?

I In your Enumeration of mounds

Which stopped about the first
of June or thereabouts, did
you intend to include the
mine at Oroville? the
Huletts, and the Rogers,
and Moocene? and other
small mines of that class?
A I neglected to mention
them

I you mentioned the Excal
bur and the North Bloomfield
and the Mullin? A Yes sir

I did you mention the
Blue Point at Smartsville?

A. There is no such Company
now *

I you did not mention the
Nevada Reservoir and Pitch
Co? A I did not

I did that mine stop at
the same time?

A I don't think it did at
the same time.

I do you know that it did
not? A. I am not sure.

I think I saw that mine at
work in July but I am
not absolutely certain.

Then supply of water gives out early in the season.

Q Did you include the Jewell and the Connolly?

A I don't think they stopped.

Q Do you know that they did not?

A They may have stopped for the lack of water supply, then supply is limited to the spring time I know.

Q Did you Enumerate them?

A I did not Enumerate them.

Q In referring to your map of water sheds, state what proportion or what part of is here within and what part outside of the snow line?

A The water shed of the American River?

A What do you mean by the snow line. What scientific people mean by the snow line, is the line within which the snow lasts the year around; the line of everlasting snow.

Q Where are the highest points of the American River?

A Urthun: the snow line of course. Some of them. In some of the snow line peaks.

Q What are the highest points? A. Ten or Eleven thousand feet

Q What is the height of Summit Station? A. 7,000 feet or my impression

Q During the ^{winter} season they have snow pretty much all the time from Alta up to the summit? A In some seasons, yes sir. In heavy seasons they have snow all the way up?

Q Generally very little rain above Alta? A They have very heavy rains above Alta and right up to the summit. Making a flood time. In some seasons they will get very little rain up there; in some they will get a good deal.

Q You were speaking about the extreme narrowness of the American River at Polson?

I will ask you whether it has not always been sufficient to discharge the water coming down there so far as you know? Whether it has had any difficulty in draining that water shed?

A Well, that has been the only place where the water could get caught for that section for the last million of years or so, and I suppose it has always been big enough.

I Well, you don't intend to convey the contrary impression. A Certainly not.

I When you spoke of naturally washings, you referred to roads, are there any roads above the snow line? A What do you mean by the snow line?

I Take Alta Station? are there any roads above Alta in Placer County except the railroad? A I think there are, I have been over roads of there. I have been on

a road adjoining the rail-
road, clear up to the Summit.
A wagon road. a turnpike,
road.

I Am thing more than a trail.

A Yes sir

I What was it called?

A. I think it was called the
Denner and Truckee turnpike.
There are plenty of roads
from Colfax and Alta up
in that direction

I Do you know of any roads
across the country above
Alta? A There are several
I know there is one to
Emigrant Camp.

I Are they not trails?

A No sir. There is a road
down in the valley below
to Emigrant Gap. There
are plenty of roads, up
there, any quantity of
them.

I How "plenty" are they?

A Well, that is hard to de-
fine. I think Every body
knows how plentiful they

are.

I am were speaking about the value of these Hy draule Mues? I will ask you to name a number of them? And ask you whether they have declared dividends within the last 5 years? or I will name a number of them to you? I will just ask you about the Cedar Creek Lumber, that is at Ductel Flat?.

A There may be such a Corporation but I don't know it

I take the Franklin? Has it declared a dividend within the last 5 years?

A I don't know

I take the Palan Star and the four time Cross, at Ductel Flat? Have they declared a dividend within the last 5 years?

A I don't know. I have not heard of it

I Now I will take the

Little York
~~Answer~~ I hunted? The principal defendant in the Reyes Case? A I think that Corporation have gone out of existence. I am not certain

Q It was a total failure, so far as the Stock holders were concerned?

A I don't know about that

Q Don't you know it was sold to Balch for \$10000. and that he subsequently sold it for \$25000.?

A I don't know

Q Did you ever hear of that Company's declaring a dividend?

A I have not

Q Has the Fox Run mine declared a dividend within 5 years?

A I don't know

that it has

Q Now take the Little York mine above Draville? how long has that been in operation?

A For a long time

Q Has it ever declared a dividend?

A I dont know

I has it not been abandoned

A I think not. You mean
the Henderson mine?

I yes sir? Has there been
any work done on it for
two years past?

A I dont know. I know
that Mr Henderson considers
it very valuable property

2. Is it not an insuperable
fact and objection in con-
nection with that mine that
they suffer there from sliding
banks?

A They have
a great deal of trouble there
with sliding banks. It is
a great objection but not
actually insuperable

3. Has the Cherokee mine
declared more than one divi-
dend in 5 years?

A I think it has. The
owner told me they had de-
clared a dividend when I
was in New York this year.
I think they have declared
a good many in the last

5 years.

2 It has lately passed into new hands? A Yes sir. A year or a year and a half ago.

It has that Company declared more than one dividend?

A I don't know

It has it not been necessary for that Company to make very large Expenditures in order to run a lower tunnel?

A They have built a tunnel lately which cost a considerable amount of money.

I take the Dardanelles mine at Iowa Hill? What is the pecuniary condition of that mine? A I can^{not} tell you

It has it declared any dividends? A I can not tell you, I am not familiar with the mines on Iowa Hill

It has any since the North Bloomfield declared a dividend? A Last year, or this year. I think this year

I am not certain, I can't
tell you the time exactly.

Q Have many assessments
have been levied since it de-
clared a dividend?

Objected to on the ground
of immateriality.

Objection sustained

Q Do you know of any
hydraulic mine in Colorado
Country that has declared a
dividend within the last five
years? A I do not know

Q Mine owners never conceal
the extent of their dividends?

A They very often do

Q Don't they sell their mines
by virtue of their dividends?

A If they want to sell them.
If the mines have been pay-
ing.

Q Are not dividends frequent-
ly paid without being earned?

A Not by honest companies.

Q Don't assessments generally
follow the dividends of these
companies? A Not as a
general proposition.

Certainly not with any companies with which I have had any thing to do; which have all been honestly managed.

I have long since the Cedar Creek Limited has declared a dividend? A I don't know of the existence of any such Corporation.

I have got the wrong name. I mean the Golden Mining Company Limited?

A I know nothing whatever of the financial operations of that company.

I have never seen you arrive at the value of these mining properties without taking into consideration all the circumstances that within the last five years have attended their financial operations? The fact that they have made little or no money?

A That is not true at all? That is absolutely untrue? That is an absolute assumption.

I have asked you to be an Expert on this subject, having this special knowledge which you claim to yourself in regard to these mining values without taking the matter of their going from year to year without declaring dividends, but with levying assessments, into consideration?

Mr Belcher There has been no evidence here of any assessments

The Reporter read the question
 A I have taken the general financial operations of these companies, including their dividends into consideration. I want to explain now how I did it. A good many of these companies with which I am familiar have declared large amounts in dividends. Many companies for instance, the Bloomfield and Milton have expended large sums in improvements. The Bloomfield and Milton expended \$4,000,000

which was not drawn entirely from stockholders. One million of the four million was borrowed. The profits of these mines have been used in some degree to pay their indebtedness.

Mr. Cadwalader have not the mines which I have named, during these last five years been levying assessments? A No Sir. But some of these mines have paid dividends. You picked out some very poor mines to mention. Besides some of these mines have paid back indebtedness incurred in making large improvements.

Do you say the Cherokee has paid more than one dividend in 5 years?

A I think it has. It has made large profits.

Do you listen to what the President of that Company, Mr. Abbey, said on that subject in the Keyes case?

A I dont remember
 I Dont know that that
 mine was sold for what it
 cost its projections?

A I dont know that. I know
 for what it was sold. It is
 not proper for me to state here.
 I am.

2. Was not the North Bloom-
 field a mortgage debt of
 \$1,000,000? ~~It is but~~ 200,000

2. A mortgage debt? A I think
 I have long since that ground
 was purchased?

A. 14 or 15 years ago. Since
 then they have been continually
 extending the area

I have many dividends by
 the North Bloomfield declared
 since 1877. Since you test-
 ified in the Key & Case?

A I am not all with-
 out consulting the report

I have it declared more
 than one dividend up to 1877

A I am not all without
 examination. The North Bloom-
 field and Melton are worth

Every dollar they cost the
Company. I do

I didn't give the Key as
Case say, that the cost of
the ground of the Bloomfield
was 50.000

2.

2. Is not that mine pretty
well worked out? a It is
not by any means.

2 At what rate have you
been working it

Objection being raised this
question was not pressed

2 How many assessments
have you levied since 1877

A I need not tell of but
only one. I am not certain
without looking at the re-
port

2 How many dividends have
you declared? A Quite a
number, I don't know how
many.

2 Have you declared a divi-
dend the last 18 months?

A We have.

2 What mine after getting

out of gravel are being worked
as drift mines?

A I could name one or two
small mines in reflection

I Come to the Jackson Hill,
mines? Sayent & Jacobs? that
mine is now being worked as a
drift mine? A The lower

gravel is below the drainage
of the country; and that is
the only way it comes be worked

I. All worked there of late
years has been by drifting?
A No sir.

I. Lately? A. A year
and a half ago.

I How deep is their drift?
A Some 200 feet below the
surface

I The ravine in which they
dumped was nearly filled
by dumping?

A It had a good deal of
gravel in it

I Filled within 30 feet?

A It may have been, prob-
ably it was

I It is now a good drift

mine? A It can be work-
ed either way

2. It being an original, the
oldest dry drainie mine, in the
State it is now turned into a
drift mine? A I think not,
they are drifting now for the
first time, they are drifting
because that is the only way
they ever get out the lower
rich gravel, which is far below
the surface of the drainage near
by.

Do you know of any other drainie
mine working in the County of
El Dorado which has paid a divi-
dend with 5 years? A I am
not familiar with the financial
operations of those companies.
I have understood that some of
them were profitable?

2 What ones? A I cannot
give the names. The ones that
Blair has been operating.
I have understood they were prof-
itable. I don't know in regard to
it. I simply have general information which
leads me to believe that some of
those mines are paying well.

Q What do you say about the top gravel in these hydraulic mines paying or not paying?

A. Sometimes it pays and sometimes it does not.

Q Well as a general thing has it not failed to pay and been disastrous?

A It depends, large profits have been made washing top gravel frequently than I know of.

Q But I mean as a general thing - as a general thing with the hydraulic mining has not the result of the washing of top gravel been disastrous to the Companies engaged in it.

A. It may have been disastrous to Companies engaged in it if they paid large prices for their water, if they had their own water there would have been a profit in working it.

Q Is it not true in hydraulic

mining that the pay streak generally lies within fifteen feet of the bed rock?

A. Not always the case by any means. In places you see the pay streak up sixty feet from the bottom.

Q. Well as a general thing?

A. Generally it is within twenty or thirty feet of the bottom.

Q. Well I mean as a general thing?

A. Generally it is within twenty or thirty feet of the bottom.

Q. Now is it not true that banks of gravel 400 feet high have been washed down in order to get at a pay streak fifteen or 20 feet high?

A. I do not know of any such place.

Q. How high then if not four hundred feet?

A. I have never seen a pay streak in a hydraulic

Mine as thin as you describe it }

Q Didn't you in the North Bloomfield wash 3000000 feet of gravel or three and a quarter million yards of gravel which only paid 2237 dollars over washing expenses not taking Capital into Consideration }

A That may be possible

Q That was your first experiment was it not in order to ascertain how cheaply gravel could be washed }

A From the earlier Bloomfield washings - I do not remember those amounts at all, whether your supposition is correct, from the earlier washings I found out the cost of washing gravel was, that was my first experience of course. If you refer to an earlier washing I can say that a good deal of the water which

the Bloomfield Company used was purchased at large rates

Q By this hydraulic Method a great deal of gravel is washed that dont pay ~~five~~ Cents a Cubic yard, is that so?

A. I do not think so as a general proposition.

Q I will ask you whether four and a half Cents per Cubic yard is not stated by professor Whitney in his book which accompanies that map which you refer to in your testimony, was not the average yield of 67000000 yards of top earth that had been washed up?

A. I do not know what the professor states about that.

Q Do you pretend to say that there is not a great deal of top gravel washed that dont pay for washing?

6004

A I do not pretend to say
anything Mr Cadwallader,
please don't use that word
so much

Q Well is it not true
that in all hydraulic
mines there is a large
amount of matter washed
that does not pay for
washing?

A It may be in mines
that are not profitable
matter which they wash
that does not give a
profit.

Q Well I mean year in
and year out?

A. People if they find it
is unprofitable generally
stop doing it

Q Well have they not stop-
ped washing off top gravel
as a business I said?

A. Not at all, the operation
of the Eureka Lake mine
chiefly on top gravel they
made one hundred and
fifty or two hundred thousand

dollars a year steadily.

Q Is it not stated in all the text books and documents written on the subject of hydraulic mining in California that as a general thing the washing of pay gravel had been attended with loss instead of profit?

A The washing of pay gravel

Q Top gravel?

A. It is not true as a general thing.

Q But is not that stated in works and papers?

A. It is incorrectly stated if it is so. the profits are not as large as in the bottom washings because the bottom gravel is the richest, but there has been a large amount of profit made in washing top gravel in mines under my observation.

Q As a general thing has it not been at a loss

book

A as a general thing I think not.

Q And for that reason have they not resorted to these deep tunnels in order to get down to the bed rock?

A Sometimes they have done that, that is the case at Bloomfield, but at Gold Run for instance I have always understood that the top gravel was very profitable and at Dutch Flat also, the washings of the top gravel on those mines have been profitable.

Q You do not know only by general reputation, the top gravel at Dutch Flat has the reputation of being richer or more profitable to work than the bottom gravel.

Q If the Goela lies as you say within 15 or 25 feet of the bed rock, it follows

that the top gravel is poor
does it not?

A. The top gravel is poorer
than the lower gravel as
a general thing and
that rich lower gravel is
sometimes as deep as I
have told you several times
as sixty feet sometimes
deeper.

Q At the North Bloomfield
you had a very large
deposit of this pipe clay
had you not?

A. In some places we have
Q It has given you a
great deal of trouble has
it not?

A Not any special trouble
it has to be worked off.

Q Well that does not pay
does it?

A ~~The pipe clay~~ no there
is no gold in the pipe
clay.

Q Still you wash it
down into the Rivers?

A It has to be washed

Away to work the gravel under neath it, the thickness of the pipe Clay is slight Compared with the thickness of the gravel.

Q That is one of the exegences of hydraulic mining is it not that you must wash everything in order to get at the pay streak in the bottom?

A If you want to get down to the pay streak you have to wash what is above it as a matter of course

Q You do as a matter of course don't you?

A That is the only way you have to wash away the surface to get at the bottom.

Q You put everything into these streams that water will carry?

A We put in what heavy material we can get through the sluices.

Q You make no effort to

Keep any material out of
the stream but on the
Contrary to Keep it in?
A. In some of our mines we
Keep the material in
where there is too much
and too heavy.

Q In your operation of
hydraulic mining have
you not been conscious that
you were producing the
very evils of which the
plaintiff in this case
complains and that sooner
or later you will have to
cease?

A I have not been at all,
let me answer the question—
when I came to California
in 1869 a man would
have been sent to Stockton
who would suggest that
mining should be stopped.
Q I will ask you whether in
the text books on hydraulic
mining that particular
exigency is not laid down?
A It has been of very late

Years.

Q But I mean in times commencing back over ten years?

A Ever since lawyers who have made it there business to stir up trouble, have been bothering us, yes since then the text books have been alluding to it constantly

Q I will ask you whether attempts have not been made by men in your business that the United States government should set aside a large part of the territory in this valley for dumping ground for your mines?

A. I do not know that it has been done.

x Q Was not that

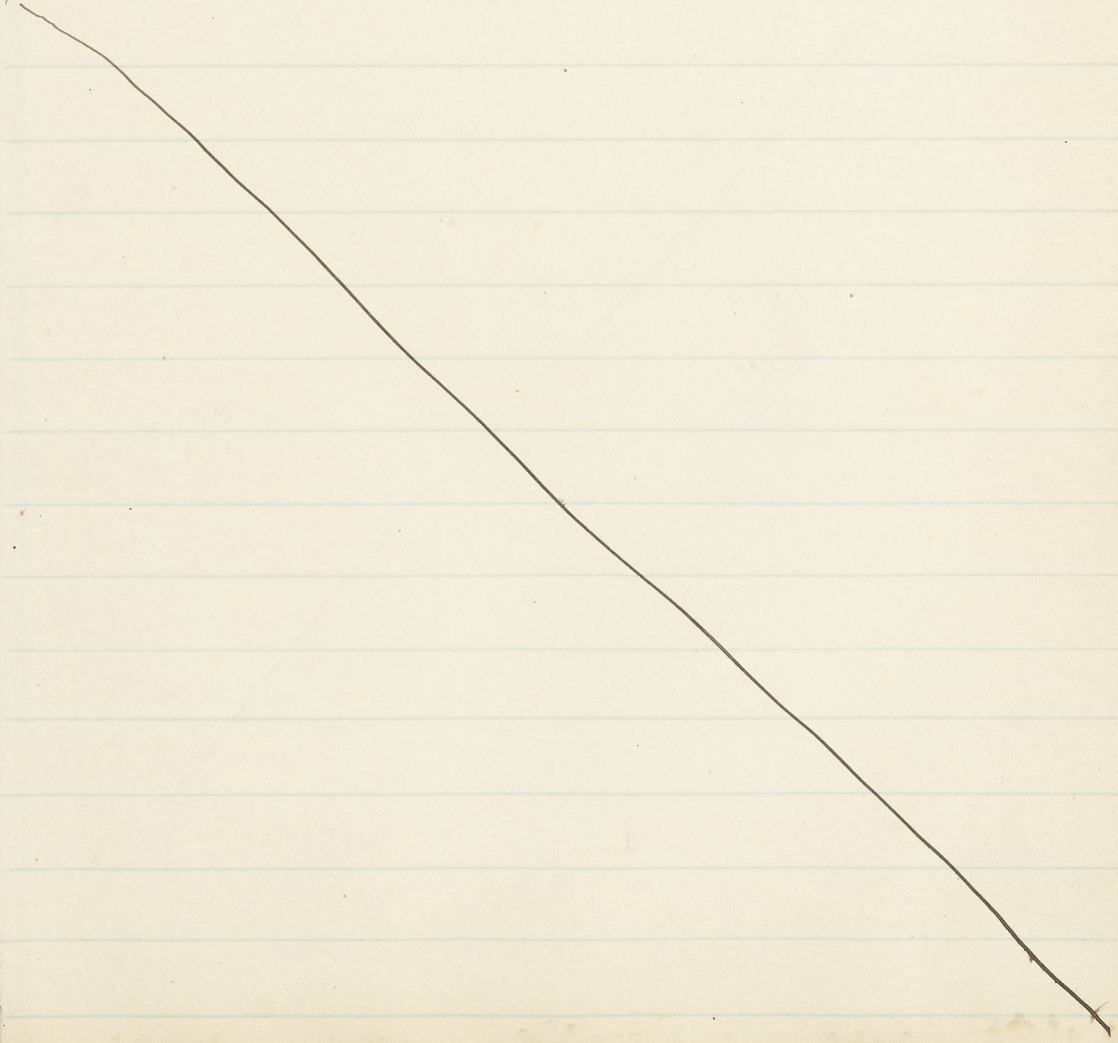
A I do not remember it

Q Does it not appear in Bowies work on hydraulic mining that persons engaged in hydraulic mining were conscious of the fact that sooner or later they would

Come in Conflict with the
Commercial and agricultural
interests of the state.

Mr Belcher I desire to
interpose an objection that
it is not a matter in
Cross examination or
pertinent to the case in
any respect whatever

The Court I suppose it is
not Cross examination, but
it is in



Mr Belcher The offers which
we were to make and for
which we reserved leave
to make, we would like
to make now. The first
one is that the Witness,
Hamilton Smith would
if allowed testify and
we offered to prove by
him:

That under the Acts of the
 Legislature of March 28, 1878
 and April 23, 1880 intended to
 promote drainage and im-
 prove and rectify the chan-
 nels of the rivers of California
 the State Engineer did with
 the advice and assistance
 of other distinguished en-
 gineers examine the Sacramento,
 the American, Bear, Yuba
 and Feather Rivers with
 special reference to the con-
 struction of such works as
 should be necessary for the
 rectification of the chan-
 nels of those rivers and
 the improvement of the
 navigable portions thereof
 and the protection and
 preservation of the low lands
 along and adjoining those
 rivers and did after careful
 examination ^{and consideration} propose plans
 for the construction of works
 consisting of dams to be
 constructed at proper places
 in the mountain Cañons

and along the course of those rivers for restraining and holding the mining and other debris and as well for the construction of levees along the banks of the lower portion of said rivers to protect the adjoining lands from inundation by winter floods.

That the witness has carefully examined those places and the rivers upon which it was proposed to construct ^{proposed works} them and that in his judgment the works proposed were not only possible but were feasible and practicable and would if carried out become effectual to prevent and protect from injury the navigability of the debris bearing rivers of the State and the agricultural lands adjoining them and that such works could be constructed at a very small expense compared

with the value of the properties and the industries to be thereby protected and which would not exceed the one four hundredth $\langle \frac{1}{400} \rangle$ part of the value of the gold yet remaining to be mined from the gravel beds of California. That is all we offered to prove.

Mr. Start A portion of that offer has already been proven. Your Honor permitted this witness to testify that he had examined these rivers and the plans of the State Engineer with the view of determining the very things mentioned in this Report. And that should be struck from the Offer. The question in relation to what the State Engineer has done is a question which is new at this time and upon which they did not propose to examine this

Witness.

Mr Belcher It was exactly the question that was asked him

Mr Start The proposition upon which they did propose to examine this witness and upon which this offer is made was: "What were the results of your examinations?" That was the question I think as propounded by Mr Dibble.

Now if they propose to prove what were the results of this examination, of course the objection is the same. But I am going to insist at this time, as I did before that they have no right to make these offers combining innumerable questions of fact. I simply say that I still adhere to the objection that was originally made to the question that was asked and when they attempt to

prove these other matters
 stated in this offer, I
 shall make such other
 objections as I think are
 proper to be made under
 the circumstances. As
 suggested by Judge Rhodes
 there are many things con-
 lined in this offer which
 they have made which
 might be under some cir-
 cumstances material. The
 difficulty about this kind
 of practice, a practice
 which I think is wrong under
 any circumstances is that
 they combine material and
 immaterial matter, under-
 take to make us object
 to the whole or allow the
 whole to go in. It may be
 that upon a critical ex-
 amination in the Supreme
 Court of this offer some
 thing may be found there
 which is competent. I
 think some of it is com-
 petent. I think that their

offer to prove by this witness what he did in the examination of these rivers is competent as tending to demonstrate the competency of this witness to testify as an expert in the matters about which he has testified, but the balance of it so far as I have been able to notice is from listening to it, never having seen it before is all immaterial I think. For that reason I say, as I said before, that I insist on my objection to the question which they propounded before. As I said the other day these offers are entirely unnecessary. A question is propounded to which I make objection. Now that question must be most strongly construed against me as I make the objection to it, I test its legal sufficiency-

I demur to it. I admit
 that they can prove all
 they can prove on that
 subject. in order to test
 its sufficiency. I admit
 that this witness will
 swear to every thing that
 that ~~witness~~ ^{question} will bring
 out, so they may use any
 argument they desire as
 to what the answer of
 the witness would be.
 That is material and
 responsive to the question
 and if any response
 would be material it
 would be error for your
 Honor to rule it out.
 If the question is such
 that any answer responsive
 to it would necessarily
 be immaterial then it
 would not be error to rule
 it out. For that reason I
 say that these offers are
 unnecessary and that the
 practice is improper.
 If we object to their questions

The matter can be fully presented to the Upper Court, but it is certainly an objectionable practice to at this time include in this offer a great many things, some of which were not included in the attempted examination when the matter was before the Court yesterday.

The Court This matter will be reserved for the present for further examination and it will be ruled on hereafter.

Mr Belcher The other offer was in regard to other rivers, the offer to show and expect the witness would testify if allowed that the Po, at Pontelugascuro which is near its mouth carries a mean of one part in 160 of solid matter by weight. The statement is made upon the authority of Lombardini and that the

Durance in flood carries one part in 48 of solid matter, upon the authority of Payin.

That the Garonne in flood carries one part in 100 of solid matter by weight, upon the authority of Baumgarten.

That the Rhone in flood, carries one part in 45 by weight, that statement being made upon the authority of Stumphrey's Abbott.

That the Nile in flood carries one part in 65 upon the authority of Beardsmore.

That the Vistula carries in flood one part in 30, or $1/30$ on the authority of Stumphrey's and Abbott.

That the Rhine in flood carries one part in 55 by weight or $1/55$ according to the authority of Stark-pocker.

That the Ganges at Shazepoor about 500 miles from its mouth and above its junction with the Brahmaputra carries as mean one part in 428 of solid matter or $1/428$ on the authority Everest

That the Stour carries as mean one part in 200 of solid matter on the authority of Sir George Staunton.

That the Indus in flood carries one part in 238 on the authority of Jackson and that the Mississippi at Memphis in flood carries one part in 596 according to the authority of Lieut Marr

And that none of those rivers are affected by mining, this is the matter that we started to offer to prove on yesterday and we stopped in order to prepare it to save the time

of the Court.

The Court I presume this is the same except the last sentence, as to their being no mining on those rivers?

Mr Belcher It is exactly the same

Mr Stant We will reserve time to object to both of these offers

Mr Belcher We desire to withdraw this witness for the present and to put other witnesses on the stand so that Mr Dibble may conduct the re-examination as he is not present

Testimony of
J. S. Gould
 Recalled for depts

The Court Do you wish to make a correction to your testimony?

Mr Byrne @ In your testimony the other day you made a statement in reference to the size of a certain flume which conveyed water from the Ditch of the Gold Run Ditch and Mining Co. in the Excelsior Claim?

A It was the flume that carried the water from the measuring box to the pond box.

@ I own the measuring box to the pond box?

A Yes. I said that it was 12 inches at the upper end — 12 inches high.

@ And how wide did you state that it was?

A Four feet.

Q. Have you since then examined that flume?

Ayes.

Q. Why did you examine it? A. After going off the stand I thought the matter over and I did not know but I might be mistaken and I went up there and found that it was 22 inches high. The reason of my thinking that it was 12 inches high was that when the flume was built at the upper end the top board was left off and when they turned the water through it, it came pretty near to the top of the board and I was not certain but I supposed that it was the same now, but it appears that it has been put on since that time, but when I do not know

Q. And you went there

for the purpose of subis
bying myself?

A I went there for that
purpose on Monday
right after I was on the
stand and I found that
I had made a mistake. It
might have been on at
the time Mr Allardt was
there.

Q That was the 17th of
June 1881? Ayes.

Q You say it might
have been there at that
time? Ayes.

Cross Examination of J. S. Gould

Mr Stark Q The size of
the Excelsior Plume then
has been increased?

Ans^r in there was a
board —

Q (Subg) Between the
pand box and the measuring
box? A there has been a

board put on one side.
It would not have been
but about $10\frac{1}{2}$ inches
high or 11 inches

Q And now it is 22?

A Now it is 22 by reason
of putting on that top
board

Q Now is there not another
flume there through which
water may be carried to
that mine? A No sir
not into the claim. There
is what is called a waste
water ditch that takes
the water over the bank

Q Do what? A Over the
bank of that claim and
into the pit.

Q Now is there not another
flume there that connects
with this flume at some
point between that and
the place where it joins
the pipe or conducts the
water to the pipe?

A Let me explain. This
other ditch is a small

ditch and the water is taken from the Gulch Ditch to that mine, not from the Gold Run Ditch.

Q What is what Lunder stand. But is there not another flume that conducts the water to the flume that you speak of?

A There is a flume that conducts water from the mining ditch to the measuring box and then from the measuring box out into this flume to the pond box.

Q Mr Allardt states to me that in the bottom of the pit are two flumes, one coming from another mine which adjoins the flume of the Excelsior Claim.

eyes.

Q You know about that?

eyes.

Q This measurement was just below the junction of those two flumes?

A That is what is called the Benton Claim.

Q The Benton claim water runs this way into this flume? <indicates>

A It did when it was working but it has not worked any since last February

Q Do you know whether it was running any water through there on the day mentioned by Mr Allard?

A I do not know whether any water was running through there but the claim was not working on that day

Q But you do not know anything about it? whether any water was running there? And so

O You cannot testify whether there were 1100 inches running through here or not? <indicates>

A I did not see it of course

Q You cannot testify whether or not there were 1100 inches of water running through there at that point can you? A No sir not of my own knowledge that I know of.

Re direct Examination

of
J. L. Gaird

Q Was the Benton claim working on the 17 of last June? A No sir it was in February that the last work was done.

Q Was there any water running through the Benton flume on that day?

A I do not know. I do not know but what this little ditch that took waste water from the Yuba ditch might have went around that way. I do not remember how they did run their water

their waste water there

Q Do you know how much waste water they did run?

A They used to run from 25 to 30 inches

Q Did you see it? A Yes I have often seen it

Q Can you estimate by looking at a stream of that size how much water it contains? A I could come very near it

Mr Start Q Do you mean to testify now that there were only 25 or 30 inches running through that flume that joined with this one on the 17th of June when Mr Allardt measured it?

Ans Sir

Mr Byrne Now about the patents and deeds I have made a statement and perhaps it will save time to read it

The Court The patents to the mine? To the various portions of the claim to

6032

belonging to the Company?

Mr Byrne They are either patents or deeds from persons who had patents

The Court You have patents or deeds from the patentees?

Mr Byrne Yes, we desire to offer them now to show the sources of our title. I have made out a brief abstract of the deeds and Patents and perhaps by reading it time will be saved

The Court Very well is there any objection to that?

Mr Stant I do not think I have any objection to their patents

Mr Byrne They are not all Patents; some of them are deeds

The Court Read the abstract that it may go into the record

Mr Byrne We first offer in evidence a deed from E. M. Stull to J. B.

Taylor and others composing the Miner's Ditch Company. dated the 13th day of April 1868 which conveys the Ditch property or Aqueduct which is now known as the property of the Gold Run Ditch and Mining Co.

We next offer a Certificate of Incorporation which is under the great Seal of the State and signed by the Secretary of State which recites that on the 10th of August 1870 the defendant here was incorporated under the laws of this State and that subsequently on the 12th day of March 1873 its Capital Stock was increased from 1210 Shares to 9050 Shares

Next a Patent from the United States of America to William Fidd, James L. Gould and Henry H. Brown which conveys the Indiana Steel claim -

dated the 31st of July
1873

Then a Deed dated the
2nd day of December 1874
from William Judd, James
Lyford and Henry
St. Brown to the Gold Run
Ditch and Mining Com-
pany which conveys the
same property, the Indi-
ana Hill Claim.

Next a Patent dated
the 15th day of May 1875
from the United States
of America to the Gold
Run Ditch and Mining
Company which conveys
the North Star claim.

Then a Deed dated
May 30th 1876 from Thomas
B. Luddum to the Gold
Run Ditch and Mining
Company which conveys
one half of the Gold Run
Claim and which recites
the fact that Mr. Luddum
the grantor in that con-
veyance acquired his

right under a United States patent. That Patent we have not here, but if it is insisted on we will produce it. The title derived through the last Patent is by Patent dated February 1. 1876 being on Mineral Survey No. 312. and recorded in the Office of the Recorder of the General Land office in Volume 19 at pages from 135 to 141 and also recorded in the Records of Placer County in Books "B" of Patents at pages from 381 to 386. That ^{deed} conveys one half of the gold Run claim, so called.

The next is a Patent dated February 26th 1881 from the United States of America to Francis Sachs, J. H. Abel and several others — I do not know that it is necessary to repeat all of their

names - J. F. Moody, B. F.
 Moore, H. H. Brown, W. H.
 Kinder, P. H. Weisgerber,
 A. S. Benton, S. W. Halsey,
 John Anderson and the
 Gold Run Ditch and
 Mining Company, which
 conveyed among other prop-
 erties, the claims known
 as the Church and Golden
 Gate and Taylor. I will
 state that in this Patent
 a number of the claim
 owners united and made
 application for their various
 properties which were
 respectively held by them
 and that after the issuance
 of the Patent they respect-
 fully conveyed all the
 interest acquired by the
 Patent itself to the proper
 owners - the object being
 to save expense in the
 procurement of the Patent.
 The Gold Run Company
 acquired the Church and
 Golden Gate and Taylor

Claims. Then Taylor claim includes what is designated on the map there as the Palmer, Warner, Brown and Daels claims.

Then a deed dated November 9 1881. from P. B. Ulber and others to J. S. Gould and others which conveys the particular interest belonging to the defendant here

Next a Deed from J. St Abel to J. S. Gould and others dated March 15th 1881 which conveys the interest which he acquired under the Patent

Next a Deed dated March 15th 1881 from B. F. Moore and others to J. S. Gould and others which conveys their relative interest

Then a Deed dated July 29th 1881 from L. M. Benton and others to J. S. Gould and others which is similar in its character and effect

Then a Deed from S. M. Stalvey and others to J. S. Gould and others which is the same in effect, dated March 17th 1881

Then another Deed dated November 9th 1881 from J. S. Gould and others, the grantees in the former deeds to the Gold Run Ditch and Mining Company. The effect of these deeds is to pass to the defendant here the properties known as the Church and Golden Gate and Pay for claims, which also, as I have stated embrace the Palmer, Sturmer, Brown and Sachs claims.

Noted are all those claims patented by the government?

All those are patented. Then a Deed from J. B. Luddum to the Gold Run Ditch and

Mining Company dated May 13th 1876 which conveys a reservoir site near the Starkness claim indicated on the map there

Next a deed dated May 31st 1872 from W. St. Slinder to the Gold Run Ditch and Mining Company which conveys one half of the Gold Run claim, one half of the Bay State No. 2., two fifths of the Druid, the Illinois claim, the Little and Big Pine Top claim, the Tail Flume on Squires Cañon

Next a Deed from William Judah to the Gold Run Ditch and Mining Company dated November 17th 1873, which conveys one fourth of the Bay State No. 2. Next a Patent from the United States of America to J. L. Gould dated the 14th

day of January 1876 which conveys 160 acres of timber land on Cañon Creek which have been used in connection with the mining operations of the defendant.

Next a Deed from J. L. Gould to the Gold Run Ditch and Mining Company dated August 11th 1875 which conveys to the defendant the same 160 acres of land.

Next a Deed from the Central Pacific Rail Road Company to the Gold Run Ditch and Mining Company dated August 5th 1876 which conveys timber land.

Next a Deed from the Central Pacific Rail Road Company to the Gold Run Ditch and Mining Company dated April 22nd 1876 which conveys Reservoir sites.

Next a deed from the

Central Pacific Rail Road Company to the Gold Run Ditch and Mining Company dated October 29th 1875 which also conveys land used for reservoir sites

Next a deed from Allen Towle to the Gold Run Ditch and Mining Company dated August 9, 1875 which conveys another reservoir site

Next a deed from J. L. Gould and St. St. Brown to the Gold Run ditch and Mining Company dated November 23rd 1872 which conveys one half of the Hearsage Mine

Next a deed from C. A. Bartlett and others to the Gold Run Ditch and Mining Company which conveys three fourths of the Comet Claim dated November 15th 1873

Next a deed from

J. L. Gould to the Gold Run Ditch and Mining Company dated May 30 1876 which conveys one fourth of the tail flume in Pequire's Cañon and one half of the Maryland Still claim

Next a deed from J. L. Gould to the Gold Run Ditch and Mining Company dated May 30. 1876. which conveys the Blue Point Claim

Next a deed from Jason Brink and others to the Gold Run Ditch and Mining Company dated October 16. 1878 which conveys a mining claim known as Potato Ravine as indicated on the map

Next a deed from M. P. Stubbard to the Gold Run Ditch and Mining Co. dated June 23. 1875. which conveys one fourth of the "Comet" and one half of the Hearsage claims

Those are all the deeds. I suppose there will be no objection to them.

Mr Stand We object upon the ground that they are irrelevant and immaterial

Mr Rhodes All these deeds you have mentioned relate to the property on this ridge or that is used in connection with it - the water, reservoir sites etc., used in connection with it?

Mr Byrne Yes.

Mr Rhodes Do they all relate to it?

Mr Byrne With the exception perhaps of two or three claims which are on the other side of the railroad the water from which is discharged into Aguires' Cañon and from thence into Bear River. All of these claims I have mentioned are in the Gold Run district

but all of them do not discharge into Cañon Creek. They are on the ^{Squires'} Gold Run side of Cañon

Mr Rhodes All those deeds which you have offered are founded on patents from the United States. and the interests have been vested in this Company?

Mr Byrne Yes.

Mr Rhodes All of those lands you have mentioned have vested in this Company by conveyance or otherwise?

Mr Byrne Yes. The title is in the defendant in every instance. I could if required identify the particular claims by Mr Gould who has an actual knowledge of their situation

Mr Stark Of course we claim that these Patents are immaterial, That is

that the theory upon which they are introduced as showing that this land was acquired from the government of the United States is no defense and therefore in order to raise that question we desire to make an objection to them upon the ground that they are irrelevant and immaterial and let the Court overrule the objection and we will consider the question upon the final argument of the case.

The Court It would not make any difference in the case even if they came in without objection but you may take that course if you choose

well all are we want it understood that these Patents and deeds cover this mining property. We

Can prove that

Mr Hart There may be something in these deeds and patents that we may think objectionable hereafter and we want to cover any possibility of that kind and we therefore make the objection at this time

The Court Now then propose to prove the identity of these premises described in the deeds - that they are the same described in the patents as have been described by the witnesses in this case. I suppose you will admit that fact?

Mr Hart We do not know about that

Mr Byrne Q. Do these Patents and deeds of which I have made a statement here embrace the properties of the Gold Run Litch and Mining Company?

The Witness Yes. There are two claims in the Gold Run district that are not patented though we have deeds for them there

Of which two are those?

Ashe Bay State No. 2. and the Stearns age Claims.

The Court The others are referred to in the Patents alluded to?
 Yes.

Mr Byrne all the rest are covered by patents?

Mr Rhodes The general testimony of Mr Ford at this time I suppose is sufficient that these patents and deeds all refer to the mining ground and that all the claims are included in the patents except two claims?

The Court I understand that while you object to the materiality of the evidence you admit the identity as a fact?

Mr Rhodes Yes.

The Witness I would like to state that all the mining land that the water discharges into Canon Creek all the mining land belonging to the Company is covered by patents except these two claims.

Mr Byrne Q The Hearsage and the Bay State No. 2? Ayes.

Q Do they discharge into Canon Creek? Ayes.

Q And all the other claims that belong to the Company the water from which discharged into Canon Creek are patented except those two? Ayes.

Q How extensive are they? A They are what I call top claims and are up on the bed rock and are washed out

Q They are washed out? Ayes mostly, they

are washed out. There is nothing that amounts to any thing

Q Are they entirely exhausted? A Yes, all I think that will ever be washed.

Q They are not on the channel I understand?

A No sir they are up in what is called the rim rocks

The Court They are not among those that they propose to wash hereafter?

Mr Byrne I understand the witness to say that they are exhausted

Q Where are they with reference to the Indiana title claim? A They are between the Indiana title claim and Gold Run, on the west rim. That is the Searsage claim is and the Bray State No. 2. is about half a mile East of Gold Run

on the West rim

Mr Wallace It is understood that we may refer to these patents or deeds, on the Argument, either side

Mr Belcher They are considered as read, I suppose

Mr Wallace We want it considered that they are before the Court

Mr Start Yes that is considered of course. but as to reading them on the Argument I do not know.

Mr Wallace It is understood that either party may refer to these Patents or deeds on the Argument

Mr Belcher I understand that these papers are considered as having been read and are open to consideration by Court and Counsel

Mr Wallace That they are considered as read now.

Testimony

George Q. S. Betton

Called for Defendant Sworn
Mr Byrne Where do you
 reside? A. I live at Gold
 Run, Placer County

Q. What is your business?

A. I am Water Agent

Q. For what company?

A. For the South Yuba
 Water and Mining Company

Q. The South Yuba Canal
 Company? A. That used
 to be the name of the
 company. The Yuba Water
 and Mining Company
 that is what it is.

Q. How long have you
 been such? A. Since
 last February

Q. Continuously?

A. Yes sir

Q. What is your duty or
 business in relation to
 the water sold by that
 company? A. It is my
 duty to sell water to

6092

anybody applying for it.

Q. Is it a part of your duty to measure the water that you sell? A. Yes sir.

Q. So as to ascertain how much you sell?

A. Yes sir.

Q. Do you know a claim called the Excelsior Claim?

A. I believe I do.

Q. Do you know a claim which is owned by a Mr S. J. Halsey? A. Yes sir.

Q. Is that the claim that you refer to? A. Yes sir, I believe that goes by the name of the Excelsior in that district there.

Q. Can you state to the Court how much water was sold and used and used in that claim - sold to Halsey and used in that claim on the 17th day of June last?

A. As to the amount of water that I sold to the claim, you mean?

2. Yes sir, A. I can.

2. How can you state that? A From my water book

Mr Hart What is the object of this testimony?

Mr Byrne To show how much water was running in that claim on that day - the Excelsior Claim. Mr Allard testified that he measured 1100 inches of water on that claim on the 17th day of last June. We propose to show that Mr Gould's statement is correct, that there never was more than 550 inches of water running or used in that claim, except 25 or 30 inches sold by the South Yuba Company.

Mr Hart That is not one of the defendants' claims.

Mr Byrne No sir, it is a claim which Mr Allard testified was a claim of the defendant, and in which he measured 1100 inches

of water

Mr. Hart He never testified that that belonged to defendant. They say it is not one of their claims, and we think that it is immaterial how much water was running into that claim that day

Mr. Byrne We say that Mr. Allard swore that it was one of our claims, and he measured 1100 inches of water, and he is presented here in the attitude of an expert, exceedingly correct in his measurement and calculations, and we propose to show that he was very seriously mistaken about the quantity of water in that claim

The Court R To plaintiff? I think you could hardly afford to leave it out, even if you could. It is an important item of testimony

Mr. Byrne How much water

was sold to that claim, or rather from the works of the South Yuba Ditch and Mining Company, on the 17th day of June last?

Mr Hart Before you turn to any memorandum, state what memorandum you are turning to?

A. It is my day-book of sales of water

Mr Byrne Are the entries there made each day as you sell water?

A. Yes sir

Q. Is the entry that you now propose to read, one that was made on the 17th day of June last?

A. I will tell you in a minute (referring) I find from my book that on the 17th day of June there was 25 inches of water sold in the day time, from the Yuba Ditch to this claim owned by Halsey

Q. Is that all that was sold by the Yuba Ditch?

A. On that day - on that particular day

Q. Did you measure that water? A. I measured it about every day - that is, I measured it in this way, that sometimes there may be a little more, but it never exceeded at any time 30 inches

Q. As sold by the Yuba Company? A. What I sold, what passed through the ditch under my charge, and passing to the claim of the Excelsior Company to the ditch owned by Halsey

Q. Did the water run over the bank or through the pipe? A. It ran first from my ditch through another little ditch, through a flume, and into a small sand box, and through a piece of

pipe, and then another piece of ditch, through the bank, and into a ditch down what we call the bottom of the first washings, through the bank of the Halsey claim. I saw it there running every day, nearly; sometimes 2 or 3 times a day, because I would go to see whether sometimes there might be too much, and we would be afraid that the ditch would wash away.

Q. From what source was any other water used in that claim at that time, derived?

A. There was none from the Yuba Ditch.

Q. Was there from any other ditch?

A. From the Miner's Ditch.

Q. Do you know how much water was used in that claim at that

time from the Miners' Ditch? A well, I did not measure the water at any time, but from my observation, from seasonal observation, I used to pass by there within as far as from me to the Judge, 2 or 3 or 4 times a day in travelling my beat on my ditch, and the Miners' Ditch runs within a few feet of my ditch, and going along the trail of my ditch I would not be more than 7 or 8 feet from the Miners' Ditch, where the water was taken out to the Halsey Chain, where it ran through a dividing bot or a measuring bot, and from there through the sand bot, and from there into the pipe.

Q You passed within 7 or 8 feet of the measuring bot?

A. Yes sir, and

very often I have rested right on the flume. It would be warm, and I would sit down because it would be cool there while the water was running.

Q. Did you notice the quantity of water that was running there?

A. Yes sir, I did frequently. I took particular notice

Mr Hart You took particular notice on the 17th?

A. I do not know whether I did on the 17th exactly, but I never missed a day during the month of June, or in fact any other day while water ran in the ditch, but what I would travel up and down 3 or 4 times a day.

Mr Byrne State to the Court how much water there was running there

from the Gold Run Ditch?

A. As I said before I never measured it, but from the knowledge I have from the amount of water that would run in a ditch the way it runs, the current and velocity of the water, and the amount in the ditch, I should not think there was over 500 inches running that day.

Was Hart On that day?

A. On that day, the 17th of June, that I am not positive that it was on the 17th of June, I do not speak of any day particularly, but I have been there every day during the season that the water ran, and I could not miss the 17th of June by any chance, when I know I went there every day, and several times a day.

Mr Byrne State to the Court during what period of time you were in the habit of passing by there every day, three or four times a day, and observing this water?

A From February till about the middle of July

Q. Do you know a flume called the Benton Flume?

A Yes sir

Q. Do you know a claim called the Benton Claim?

A. Yes sir, I do.

Q. Can you state whether or not there was any water running in that flume at the time you have spoken of?

A. There might have been running there probably 20 inches

Q. From what source would that come?

A That came from the small ditch from Cañon Creek

Q. Whose ditch was that?

A. That belonged to the
Indiana Mill and
Sawing Company

Q. Did you have occa-
sion to observe the quan-
tity of water flowing
through the flume below
the point of conjunction
between the Benton and
the Excelsior?

A. I have noticed it
several times; in fact
frequently

Q. How often?

A. Well, three or four
times a month probably,
and oftener

Q. How much water do
you say was running
in that flume, below
the point of conjunction?

A. I should think not
more than 20 inches - did
I understand you to say
that the water came from
the little ditch that I
speak of?

Q. Yes sir. A. I do not think there is more than 20 inches came out of that, and went into the flume at any time

Q. Do these two flumes join at any given point, the Benton and Ecelsior, do they both come together and form one flume?

A. Well, this ditch, where this 20 inches of water that I referred to, came out, runs a little higher than the main flume of the Halsey Claim or the Ecelsior Claim, where the main head of water runs through

Q. I want to know from you the whole amount of water that was in that flume in the month of June, on any day during that month, below the point where the two flumes come together?

A. Yes sir, I understand

now; I should not think there was more than, from my knowledge of that I have of the amount of water and gravel that passes through a flume, I should not think there was more than 600 inches at the discharge

Q. Was there 1100 inches at any time?

A. No, sir, there was not

Cross Examination
George E. Patton

Mr. Hart. Did you talk to anybody about this testimony before you came into this Court?

A. I did not know what questions would be asked me

Q. Did you talk to anybody about your testimony before you came into

this Court? A. We have talked about things what we know what happened up there in times gone by, but nothing of any testimony.

Q. Did you meet an attorney in his room, and were you questioned by him, as to what you would testify in this case?

A. Where?

Q. In this town?

A. I do not know what I did.

Q. Did you not meet any attorney in this case, and there determine upon what you would testify in this case?

A. I do not know what I did. If I did, do not know that he was an attorney, or anything of the kind.

Q. Did you meet anybody connected with the defense in this case, and then tell them what you

would testify in this case?

A. I have had a conversation with Mr Gould, here, and I think he is for the defense

Q. Did you talk with any of the attorneys for the defense, and tell them?

A. I do not know that I did. I do not know who all the attorneys are

Q. Do you know Mr Byrne and Mr Dibble?

A. No sir, I do not. I know Mr Dibble by sight. I do not know Mr Byrne

Q. You told Mr Gould what you would testify in this case, did you?

A. I did not that I know of

Q. Did he ask you to bring your book down here? A. No sir

Q. Did anybody ask you to bring your book down here? A. No sir

Q. How came you to bring

it to this place?

A. I brought it down here to refer to.

Q. How did you know upon what you were going to be examined, if you had not told anybody what you would testify in the case?

A. Well, this being a case that very likely water questions and such things would be brought in, I brought my book down, I thought it would not be much to carry, and I thought if I was asked questions of that, I would refer to it.

Q. Don't you know that you have told what your testimony would be, and don't you know that you have shown your book before you got on the stand?

A. I have not shown it to any attorneys.

Q. Haven't you shown any person your book

and the contents of that book in relation to this matter, before you got on the stand? A. I do not know, I might have shown him the book, I do not know as I did

Q. You will not swear that you will not?

A. No, I am not positive. I would not say

Q. Didn't you show it to Mr Gould? A. I do not remember

Q. How long have you been down here from Gold Run? A. I came Tuesday morning

Q. You do not remember what occurred here since Tuesday morning in reference to your testimony?

A. I remember several things

Q. How long have you been a Water Agent?

A. Since February

Q. Where did you come

from before February?

A. I lived right in Gold Hill since 1863

Q. What has been your occupation since you have been there? A. Hydraulic mining

Q. What mine did you work in? A. I first worked in the Buck Horn Hill, about $2\frac{1}{2}$ miles west of Gold Run

Q. Have you ever been in the employ of the Gold Run Company?

A. At one time I believe I was in their employ, at least in the employ of Gould, I do not know whether the Company went by that name in 1872 when the big tunnel was run. I was in the employ of the company 12 or 13 months.

Q. Are you in their employ now?

A. No sir

Q. Whom are you selling water for? A For the South Yuba Water and Mining Company

Q. Does that water belong to the Gold Run Company? A No

Q. Does Gould employ you? A No, I am employed by Mr John Spaulding

Q. Do you mean to say that on June 17th you looked at the flume of the Excelsior Claim to find out what was running through it?

A As I said, I could not swear whether it was on the 17th of June, but I know I passed there during the time that Mr Gould bought water from me, since, I have been on the ditch every day

Q. Do you mean to say that you were there on the 17th day of June?

A I am not positive

Q. And that there was

not over 500 Miners' inches of water running through that flume?

A. I think that if there had been, I certainly should have seen it.

Q. I ask you if you mean to testify that on that day there was not more than 500 miners' inches of water running through it?

A. Undoubtedly if there had been I should have noticed it, because I have never missed a day but what I passed there.

Q. Were you at that flume, and did you notice it on the 17th of June?

A. Well, I could not positively swear that I did.

Q. If you could not swear positively that you did see it on the 17th of June, how do you swear how much there was in it on the 17th of June? A. I did not swear to it.

Q I will ask you if you testify that there were not over 500 miners' inches in that flume on the 17th of June? A State the question again

<Question repeated>

A As to a specific day I could not be positive

Q You do not know that do you? You do not know whether on the 17th of June there was more or less? A I can answer you in this way. If there had been I am certain I would have seen it

Q You swear to that?

A If there had been I should certainly have seen it

Q Do you swear that you would have seen it if it was there on the 17th of June? A It is very possible I would have seen it.

Q I do not ask you as to

possibilities or probabilities
 I ask you if you swear
 that you would have seen
 it on the 17th of June?

A If it had been there
 on the 17th of June I would
 have seen it

Q Now can you swear
 that you would have seen
 it on the 17th of June
 if it had been there
 when you swear that
 you do not know
 whether you saw the
 flame on the 17th of
 June or not? A I will
 say that there was no day
 during the month of June
 that I did not pass
 along the ditch

Q Do you swear now that
 you did see it on the
 17th day of June?

A I could not swear if
 it was a specific day

Q You do not know
 whether you saw it on
 the 17th of June? A I,

Saw it on the 17th of June
as much as I saw it
any other day

Q Did you see it on the
17th of June? I ask
you if you swear to it?

A I would not swear
to the positive day.

Q Then can you swear
that you saw the water
there. If you were there
and the water was there
you would have seen it?

A I would have seen
it no doubt

Q You are very anxious to testify here for the defendant in this case?

A No more than anybody else

Q Why is it that you undertake to say "No doubt" this and "No doubt" that when you do not know about the fact?

A Because I am satisfied in my own mind that such is the case.

Q Is that the way you testify if you do not know a fact to say "no doubt it is a fact"? A Where I am satisfied in my own mind I tell it. As for as the amount of water -

Q That is all, you need not explain

Mr Byrne Will you complete your answer?

Mr Hart I object to his making any statements further than answering my question

Mr Byrne I think he has

a right to answer. He has been pretty severely cross examined and I think he has a right to state any fact that tends to show his knowledge.

The Court You can ask him in regard to that when it comes to the re-direct examination.

Mr. Hart Q You say that you took particular notice of the water coming from the miners ditch. Is that a ditch owned by the Gold Run Mining Company?

A Yes. It is what we call the miner's ditch.

Q You say also that you noticed the conjunction of the two sluices or flumes at the lower end?

Q Down in the pit?

A Yes.

Q You noticed that?

A I have on various occasions.

Q Did you notice it on

on the 17th of June. A I could not swear as I did

Q Did you notice it on any day in June?

A Yes. I noticed it on the 21st of June

Q You can swear as to that? A Yes

Q If you cannot swear so positively as to the 17th of June? A No sir I can explain to you why that is

Q I do not ask you to explain it. I ask you if you swear to it?

A I will not swear to it I might go down to the head of the ditch and I might not go down to the lower end of the flume.

Q Did that ditch have sufficient capacity to carry 1100 inches of water on the 17th of last June?

A The ditch that carries the water into the flume

A Yes? A Yes I believe

it has

Q Now if you do not know whether you saw it on the 17th of June how can you testify that that ditch was not actually carrying 1100 inches on that day? A As I told you before, as to a specific day - if you allow me to explain -

Q Why? That is the day we are talking of?

A If you allow me to explain you will more fully understand me in regard to this matter and I can satisfy you

Q I do not think you can satisfy me. How can you swear as to that date if you did not see it on that day?

A It is always the business of water Agents to see that the right amount of water is going out and if there were 1000 inches going

down or 1100 inches going down and if the capacity of the flume or of the nozzle would not be more than 500 inches. I must necessarily know that 600 inches was going some place where it had no business to go and I would go down to see where the water was going and to see that it was doing no damage because if 600 inches more was going down than the flume was intended to take or that the nozzle could possibly take I would know that that 600 inches would be doing damage.

O'Dding damage how?

A In some way; it would either wash away the ditch or it might wash the sand boxes down and that is why I would notice it.

Q I will ask you this

question: How much does that big ditch carry, the big flume at the lower end?

Are you mean the flume where the water and gravel discharges?

Ayes.

A I suppose it would carry if filled up to the top from 1000 to 1200 inches

Q From 1000 to 1200?

Ayes The flume where the water and gravel runs through but the ditch that runs in from the ditch to the sand box would not carry that much

Q I refer to the lower flume

Ayes I have answered you

Q It would carry about 1000 or 1200 inches? Ayes if it was filled up

Q That is down below the conjunction of the two flumes? Down below the conjunction of the two

flumes it would carry that much? A I would say as I answered you before that it would probably if it was filled up to the top, filled up level, full, it would probably 1000 or 1200 inches of clear water.

Q Would it not carry from 2000 to 2500 inches? A No sir I do not think it would, I do not hardly think it would.

Q Do you know anything about the measurement or about the capacity of that flume to carry water? A Yes.

Q How high and how wide is that flume?

A That flume I suppose is 4 feet wide.

Q How high? A Probably about 18 inches.

Q Suppose it was 22 inches high at its lowest place? A I do not hardly

think it is. I am very positive in regard to that

Q You do not know any thing about that do you?
A I know about its width

Q Do you know its grade?
A It must be 5 or 6 inches in 12 feet

Q With what velocity does the water run through it? A I do not know, I am not engineer enough to know

Q Can you measure water by looking at it without knowing its velocity?

A I can tell water where it runs in a ditch. I can tell very nearly if there are 500 inches in a ditch and I can tell by looking at a ditch within 40 or 50 inches of the amount

Q Where is the conjunction of these two flumes? Is the conjunction inside of

the claim? A It is at
the dump

Q You say these two
flumes combined will
not carry over 1500 inches?

A I do not say that, I
say they would probably
carry 2500 inches if they
were filled plumb full
up to the top

Q I asked you that question
awhile ago -

A ~~Let's~~ And I answered
you that question

Q You say this flume
of which you speak is
about 18 inches high at
or near the sand box?

A Which flume do you
refer to?

Q The flume to the En-
clain mine - near to
what you call the sand
box

Mr Byrne The measuring
box

A I do not understand
you quite

Wristart How the measuring box, or where it leaves the measuring box how large is that flume? A It is about 4 foot wide I think and about 18 or 20 inches high right next to where the water discharges from the measuring box into the flume but further down it is only about 10 1/2 inches high I should judge as near as I know. I never measured it

Q Do you mean to say that it gets smaller as you leave the measuring box? A It does not get any narrower

Q Do you mean to say that the sides of the flume are any lower?

A If you give me time I will explain this to you where the water from the measuring box plunges into the flume it necessarily splatters and flies up

Now when you confine this water in this four foot flume the sides - these top sides if there are any there and I am not positive about it that there are any have been put in there to confine this water to the flume and to shut it down towards where the pipe receives it from the flume

Q Let me ask you this question: whether or not this flume you speak of from the measuring box down where it carries the water to a pipe of some kind - whether or not when you get down to near the pipe the sides of the flume are not increased in height? And sir

Q They are not? And sir

Q You swear positively to that? A Under all the circumstances I would

Q You swear to that positively

A It might be now

Q Are they not increased for 10 inches?

A Not that I know of

Q They are no higher as you go down the flume?

A I am satisfied it is not.

Q Are you satisfied of that, or are you guessing at this thing? A I am not guessing at all

Q You swear to that position by? A The last time I saw the flume that flume near where the pipe receives the water the side was one foot high from the cross pieces and the bottom of the flume comes off of that leaving the actual sides $10\frac{1}{2}$ inches above the bottom The width is a different thing of course

Q Don't you know that it is necessary to have these flumes higher as you come

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down near the pipe in order to hold the water where there is a reception.

Ans in

Q That is not so in this case? A I do not think it is

Q Can you be positive in regard to the amount of water without being positive in relation to the size of the flume?

A The amount of water don't have any thing to do with it. As long as the water don't run over the flume would have nothing to do with it.

Q You would not look at the flume you would only look at the water?

A I might only look at the ditch where the flume goes out

Q You would look inside of the flume and would not look at the sides to ascertain the shape

of the flume and the passage through which the water run. A It was not my business exactly to climb upon the flume and see if there might be a little board sticking up here and there to keep the water from running over. Sometimes the flumes settle

Was it your business to climb up there and see if there was any water running in there? Ans. Sir I could see the water running in there from the ditch. It runs right near our ditch

< Here the Court adjourned until to morrow morning at 9.30 am >

